A new ORCHARD, and GARDEN;

OR,

The best way for Planting, Grafting, and to make any ground good, for a rich Orchard: Particularly in the North, and generally for the whole Kingdom of *England*,

as in nature, reason, situation, and all probability, may and doth appear.

With the Country-housewifes Garden for Herbs of common use: their Vertues, Seasons, Profits, Ornaments, variety of Knots, Models for Trees, and Plots for the best ordering of Grounds and Walks.

AS ALSO,

The Husbandry of Bees, with their several Uses and Annoyances.

All being the experience of Fourty and eight yeers labour, and now the second time corrected and much enlarged, by WILLIAM LAWSON.

Whereunto is newly added the Art of Propagating Plants; with the true ordering of all manner of Fruits, in their gathering, carrying home, and preservation.

London, Printed by *W. Wilson*, for *John Harison*, and are to be sold at his Shop in *Pauls* Church-yard. 1648.

To the Right Worſhipful Sir *HENRY BELLOSES*, Knight and Baronet.

Worthy Sir,

WHen in many yeers by long experience I had furniſhed this my Northern Orchard and Country-garden with needful Plants and uſeful Herbs, I did impart the view thereof to my friends, who reſorted to me to confer in matters of that nature; they did ſee it, and ſeeing, it deſired; and I muſt not deny now the publiſhing of it, (which then I allotted to my private delight) for the publike profit of others. Wherefore, though I could plead Cuſtom, the ordinary excuſe of all Writers, to chuſe a Patron and Protector of their Works, and ſo ſhroud my ſelf from ſcandal

under your honourable favour ; yet have I certain reaſons to excuſe this my preſumption : Firſt, the many courteſies you have vouchſafed me. Secondly, your delightful skill in matters of this nature. Thirdly, the profit which I received from your learned Diſcourſe of Fruit trees. Fourthly, your animating and aſſiſting of others to ſuch endeavours. Laſt of all, the rare work of your own in this kinde : all which to publiſh under your protection, I have adventured (as you ſee.) Vouchſafe it therefore entertainment, I pray you, and I hope you ſhall finde it not the unprofitableſt ſervant of your retinue : For when your ſerious employments are over-paſſed, it may interpoſe ſome commodity, and raiſe your contentment out of variety.

Your Worſhips

moſt bounden,

WILLIAM LAWSON.

THE PREFACE,

To all well minded.

ART hath her first original out of Experience, which therefore is called The School-mistris of Fools, *because she teacheth infallibly, and plainly, as drawing her knowledge out of the course of* Nature, *(which never fails in the general) by the Senses, feelingly apprehending, and comparing (with the help of the Minde) the Works of* Nature; *and as in all other things natural, so especially in Trees: For what is Art more then a provident and skilful Corrective of the faults of Nature in particular works, apprehended by the Senses? As when good ground naturally brings forth Thistles, trees stand too thick, or too thin, or disorderly, or (without dressing) put forth unprofitable Suckers, and such-like; all which, and a thousand more, Art reformeth, being taught by Experience: and therefore must we count that Art the surest, that stands upon Experimental Rules, gathered by the rule of Reason (not Conceit) of all other rules the surest.*

Whereupon have I, of my meer and sole Experience, without respect to any former-written Treatise, gathered these Rules, and set them down in writing, not daring to hide the least talent given me of my Lord and Master in heaven. Neither is this injurious to any, though it differ from the common opinion in divers points, to make it known to others, what good I have found out in this fa-

culty by long trial and experience. I confesse freely my want of curious skill in the art of Planting: and I admire and praise Plinie, Aristotle, Virgil, Cicero, *and many others, for wit and judgement in this kinde, and leave them to their times, manner, and several Countries.*

I am not determined (neither can I worthily) to set forth the praises of this Art; how some, and not a few, even of the best, have accounted it a chief part of earthly happinesse, to have fair and pleasant Orchards, as in Hesperia *and* Thessaly; *how all with one consent agree, that it is a chief part of Husbandry, (as* Tully de senectute) *and Husbandry maintains the world: how ancient, how profitable, how pleasant it is; how many secrets of Nature it doth contain, how loved, how much practised in the best places, and of the best. This hath already been done by many: I onely aim at the Common good. I delight not in curious conceits, as planting and graffing with the root upwards, inoculating Roses on Thorns, and such-like, although I have heard of divers, proved some, and read of more.*

The Stationer hath (as being most desirous, with me, to further the common good) bestowed much cost and care in having the Knots and Models by the best Artizan cut in great variety, that nothing might be any way wanting to satisfie the curious desire of those that would make use of this Book.

And I shew a plain and sure way of planting, which I have found good by 48 yeers (and more) experience in the North part of England. *I prejudicate and envy none; wishing yet all to abstain from maligning that good (to them unknown) which is well intended. Farewel.*

Thine, for thy good, *W. L.*

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THE BEST, SVRE AND READIEST WAY

to make a good *Orchard* and *Garden*.

CHAPTER. I.

Of the Gardner, and his Wages.

WHosoever desireth & endeavoureth to have a pleasant, and profitable Orchard, must (if he be able) provide himself of a Fruicterer, religious, honest, skilful in that faculty, & therwithall painfull: By religious, I meane (becaus many think religion but a fashion or custom to goto Church) maintaining, & cherishing things religious: as Schooles of learning, Churches, Tythes, Church goods, & rights; and above all things, Gods word, & the Preachers therof, so much as he is able, practising prayers, comfortable conference, mutuall instruction to edifie, almes, and other works of Charity, & all out of a good conscience. Religious.

Honesty in a Gardner, will grace your Garden, and all your house, and helpe to stay unbridled Servingmen, giving offence to none, not calling your name into question by dishoneſt acts, nor infecting your family by evill counsell or example. For there is no plague so infectious as Popery and knavery, he will not purloine your profit, nor hinder your pleasures. Honest.

Concerning his skill, he must not be a Scolist, to make shew or take in hand that, which he cannot performe, especially in so weighty a thing as an Orchard: Skilfull.

than the which there can be no humane thing more excellent, either for pleaſure or profit, as ſhall (God willing) be proved in the treatiſe following. And what an hinderance ſhall it be, not onely to the owner, but to the common good, that the unſpeakeable benefit of many hundred yeeres ſhall be loſt, by the audacious attemp: of an unskilfull Arboriſt?

Painfull. The Gardner had not need be an idle, or lazie Lubber, for ſo your Orchard being a matter of ſuch moment, will not proſper. There will ever be ſome thing to doe. Weedes are alwaies growing. The great mother of all living Creatures, the Earth, is full of ſeed in her bowels, and any ſtirring gives them heat of Sunne, and being laid neere day, they grow: Mowles worke daily, though not alwaies alike. Winter herbes at all times will grow (except in extreame froſt.) In Winter your trees and herbes would be lightned of ſnow, and your Allyes cleanſed: drifts of ſnow will ſet Deere, Hares, and Conyes, and other noyſome beaſts over your walles & hedges into your Orchard. When Summer cloathes your borders with greene and peckled colours, your Gardner muſt dreſſe his hedges, and antick workes: watch his Bees, and hive them: diſtill his Roſes and other herbes. Now begin Summer Fruits to ripe, and crave your hand to pull them. If he have a Garden (as he muſt need) to keepe, you muſt needs allow him good helpe, to end his labours which are endleſſe, for no one man is ſufficient for theſe things.

Wages. Such a Gordner as will conſcionably, quietly and patiently, travell in your Orchard, God ſhall crowne the labours of his hands with joyfulneſſe, and make the clouds drop fatneſſe upon your trees, he will provoke your love, and earne his wages, and fees belonging to his

his place: The houſe being ſerved, fallen fruite, ſuperfluity of herbes, and flowers, ſeedes, graffes, ſets, and beſides other al of, that fruit which your bountifull hand ſhall reward him withall, will much augment his wages and the profit of your bees will pay you backe againe.

If you be not able, nor willing to hire a gardner, keepe your profits to your ſelf, but then you muſt take all the pains: And for that purpoſe (if you want this faculty) to inſtruct you, have I undertaken theſe labours, and gathered theſe rules, but chiefly reſpecting my Countries good.

CHAP. 2.
Of the ſoyle.

FRuit-trees moſt common, and meeteſt for our Northerne Countries: (as Apples, Peares, Cheries, Filberds, red and white Plummes, Damſons, and Bullis,) for we meddle not with Apricockes nor Peaches, nor ſcarcely with Quinces, which will not like in our cold parts, unleſſe they be helped with ſome reflex of Sunne, or other like meanes, nor with buſhes, bearing berries, as Barberies, Gooſe-berries, or Groſers, Raſpe berries, and ſuch like, though the Barbery be wholeſome, and the tree may be made great: doe require (as all other trees doe) a blacke, fat, mellow, cleane and well tempered ſoyle, wherein they may gather plenty of good ſap. Some thinke the Haſell would have a chanily rocke, and the ſallow, and eller a wateriſh mariſh. The ſoyle is made better by delving, and other meanes, being well melted, and the wildneſſe of the earth and weedes (for every thing ſubject to man, and ſerving his uſe (not well ordered, is by nature ſub- Kinds of trees. Soyle.

ject to the curſe,) is killed by froſts and drought by fallowing and laying on heapes, and if it be wild earth, with burning.

Barren earth. If your ground be barren (for ſome are forced to make an Orchard of barren ground) make a pit three quarters deepe, and two yards wide, and round in ſuch places where you would ſet your trees, & fill the ſame with fat, pure, & mellow earth, one whole foot higher then your Soile, and therein ſet your Plant. For who is able to manure an whole Orchard plot, if it be barren? But if you determine to manure the whole ſite, this is your way: digge a trench halfe a yard deepe, all along the lower (if there be a lower) ſide of your Orchard plot, caſting up all the earth on the inner ſide, and fill the ſame with good, ſhort, hot & tender muck, & make ſuch another Trench, and fill the ſame as the firſt, and ſo the third, and ſo through out your ground. And by this means your plot ſhall be fertile for your life. But be ſure you ſet your trees, neither in dung nor barren earth

Plaine. Your ground muſt be plaine, that it may receive, and keepe moyſture, not only the raine falling thereon, but alſo water caſt upon it, or deſcending from higher ground by ſluices, Conduits, &c. For I account moiſture

Moyſt. in ſummer very needfull in the ſoil of trees, & drought in Winter. Provided, that the ground neither be boggy nor the inundation be paſt 24. houres at any time, and but twice in the whole Summer, and ſo oft in the Winter. Therefore if your plot be in a Banke, or have a deſcent, make Trenches by degrees, Allyes, Walkes, and ſuch like, ſo as the Water may be ſtayed from paſſage; & if too much water be any hinderance to your walks (for dry walkes doe well become an Orchard, and an Orchard them:) raiſe your walkes with earth firſt, and

then

then with ſtones, as big as Walnuts : and laſtly, with gravel. In Summer you need not doubt too much water from heaven, either to hurt the health of your body, or of your trees. And if over-flowing moleſt you after one day, avoid it then by deep trenching.

Some for this purpoſe dig the ſoil of their Orchard, to receive moiſture, which I cannot approve : for the roots with digging are oftentimes hurt, and eſpecially being digged by ſome unskilful ſervant : for the Gardener cannot do all himſelf. And moreover, the roots of Apples and Pears, being laid neer day, with the heat of the Sun, will put forth ſuckers, which are a great hinderance, and ſometimes, with evil guiding, the deſtruction of trees, unleſſe the delving be very ſhallow, and the ground laid very level again. Cherries and Plums, without delving, will hardly or never (after twenty yeers) be kept from ſuch ſuckers, nor Aſps.

Graſſe alſo is thought needful for moiſture, ſo you let it not touch the roots of your trees; for it will breed moſſe : and the boal of your tree neer the earth, would have the comfort of the ſun and air. Graſſe.

Some take their ground to be too moiſt when it is not ſo, by reaſon of water ſtanding thereon; for except in ſowre marſhes, ſprings, and continual over-flowings, no earth can be too moiſt. Sandy and fat earth will avoid all water falling, by receit : indeed a ſtiff clay will not receive the water, and therefore if it be graſſie or plain, eſpecially hollow, the water will abide, and it will ſeem wateriſh, when the fault is in the want of manuring, and other good dreſſing.

This plainneſſe which we require, had need be natural, becauſe to force an uneven ground, will deſtroy the fatneſſe : for every ſoil hath his cruſt next day, wherein

trees and herbs put their roots, and whence they draw their ſap, which is the beſt of the ſoil, and made fertile with heat and cold, moiſture and drought, and under which, by reaſon of the want of the ſaid temperature, by the ſaid four qualities, no tree nor herb (in a manner) will or can put root: as may be ſeen, if in digging your ground, you take the weeds of moſt growth; as graſſe or docks (which will grow, though they lie upon the earth bare) yet bury them under the cruſt, and they wil ſurely die & periſh, and become manure to your ground. This cruſt is not paſt 15 or 18 inches deep in good ground, or other grounds leſſe. Hereby appears the fault of forced plaines, *viz.* your cruſt in the lower parts, is covered with the cruſt of the higher parts, and both with worſe earth: your hights having the cruſt taken away, are become meerly barren: ſo that either you muſt force a new cruſt, or have an evil ſoil. And be ſure you level, before you plant, leſt you be forced to remove, or hurt your plants by digging, and caſting among their roots. Your ground muſt be cleared, as much as you may, of ſtones, and gravel, walls, hedges, buſhes, & other weeds.

Naturally plain.

Cruſt of the earth.

Chap. III.

Of the Site.

There is no difference, that I finde, betwixt the neceſſity of a good ſoil, and a good Site of an Orchard. For a good ſoil (as is before deſcribed) cannot want a good Site; and if it do, the fruit cannot be good; and a good ſite will much amend an evil ſoil. The beſt ſite is in lowe grounds, and (if you can) neer unto a River. High grounds are not naturally fat. And

Lowe, and neer a River.

And if they have any fatneſſe by mans hand, the very deſcent in time doth waſh it away. 'Tis with grounds in this caſe, as it is with men in a Common-wealth: Much will have more: and once poor, ſeldom or never rich. The rain will ſcind and waſh, and the winde will blowe fatneſſe from the hights to the hollows, where it will abide, and fatten the earth, though it were barren before.

Hence it is, that we have ſeldom any plain grounds, and lowe, barren; and as ſeldom any hights naturally fertile. It is unſpeakable, what fatneſſe is brought to lowe grounds by inundations of waters: neither did I ever know any barren ground in a lowe plain by a River ſide. The goodneſſe of the ſoil in *Howle* or *Hollowdernes* in *York*-ſhire, is well known to all that know the River *Humber*, and the huge bulks of their Cattel there. By eſtimation of them that have ſeen the low grounds in *Holland* and *Zealand*, they far ſurpaſſe the moſt countries in *Europe* for fruitfulneſſe, and onely becauſe they lie ſo lowe. The world cannot compare with *Egypt* for fertility, ſo far as *Nylus* doth over-flow his banks. So that a fitter place cannot be choſen for an orchard, then a low plain by a river ſide. For beſides the fatneſſe which the water brings, if any cloudy miſt or rain be ſtirring, it commonly falls down to, and follows the courſe of the River. And where ſee we greater trees of bulk and bough, then ſtanding on or neer the water ſide? If you ask why the plains in *Holdernes* and ſuch Countries, are deſtitute of woods: I anſwer, that men & cattel (that have put trees thence, from out of plains to void corners) are better then trees. Neither are thoſe places without trees. Our old fathers can tel us how woods are decayed, & people in the room of trees

Pſal. 1. 3. Ezek. 17. 8. Eccleſ. 39. 17.

Mr *Markham.*

multipli'd. I have ſtood ſomwhat long in this point, becauſe ſome do condemn a moiſt ſoil for Fruit-trees.

VVindes. Chap 13.

A low ground is good to avoid the danger of windes, both for ſhaking down your unripe fruit. Trees the moſt (that I know) being loaden with wood, for want of proyning, and growing high, by the unskilfulneſſe of the Arboriſt, muſt needs be in continual danger of the South-weſt, Weſt, and North-weſt windes, eſpecially in *September* and *March*, when the air is moſt temperate from extreme heat and cold, which are deadly enemies to great windes. Wherefore chuſe your ground lowe: Or if you be forced to plant in a higher ground, let high and ſtrong walls, houſes, and trees, as Wall-nuts, Plane-trees, Oaks, and Aſhes, placed in good order, be your fence for Windes.

The ſucken of your dwelling-houſe, deſcending into your Orchard, if it be cleanly conveyed, is good.

Sun.

The Sun, in ſome ſort, is the life of the world: it maketh proud growth, and ripens kindly and ſpeedily, according to the golden term, *Annus fructificat, non tellus.* Therefore in the Countries neerer approaching the Zodiak, the Suns habitation, they have better, and ſooner ripe fruit, then we that dwell in theſe frozen parts.

Trees againſt a wall.

This provoketh moſt of our great Arboriſts to plant Apricocks, Cherries and Peaches, by a wall, and with tacks, and other means to ſpread them upon, and faſten them to a wall, to have the benefit of the immoderate reflex of the Sun, which is commendable, for the having of fair, good, and ſoon ripe fruit. But let them know, it is more hurtful to their trees then the benefit they reap thereby, as not ſuffering a tree to live the tenth part of his age: it helps Gardeners to work. For firſt, the wall

wall hinders the roots; becauſe unto a dry and hard wall of earth or ſtone, a tree wil not nor cannot put any root to profit; but ſpecially it ſtops the paſſage of ſap, whereby the bark is wounded, & the wood, & diſeaſes grow, ſo that the tree becoms ſhort of life. For as in the body of a man, the leaning or lying on ſome member, whereby the courſe of blood is ſtopt, makes that member as it were dead for the time, till the blood return to his courſe, and I think, if that ſtopping ſhould continue any time, the member would periſh for want of blood, (for the life is in the blood) & ſo endanger the body: ſo the ſap is the life of the tree, as the blood is to mans body: neither doth the tree in winter (as is ſuppoſed) want his ſap, no more then mans body his blood, which in winter & time of ſleep, draws inward: ſo that the dead time of winter, to a tree, is but a night of reſt: for the tree at all times, even in winter, is nouriſh'd with ſap & growth as well as mans body. The chilling cold may well ſome little time ſtay or hinder the proud courſe of the ſap, but ſo little & ſo ſhort a time, that in calm & mild ſeaſons, even in the depth of winter, if you mark it, you may eaſily perceive the ſap to put out, and your trees to increaſe their buds which were formed in the ſummer before, & may eaſily be diſcerned; for leaves fall not off, til they be thruſt off with the knots or buds: whereupon it comes to paſſe, that trees cannot bear fruit plentifully two yeers together, and make themſelves ready to bloſſom againſt the ſeaſonableneſſe of the next Spring.

And if any froſt be ſo extreme, that it ſtay the ſap too much, or too long, then it kills the forward fruit in the bud, and ſomtimes the tender leaves and twigs, but not the tree: Wherefore, to return, it is perillous to ſtop the ſap. And where, or when, did you ever ſee a great tree

packt

packt on a wall? Nay, who did ever know a tree so unkindly (splat) come to age? I have heard of some, that out of their imaginary cunning, have planted such trees, on the North-side of the wall, to avoid drought: but the heat of the Sun is as comfortable (which they should have regarded) as the drought is hurtful. And although water is a soveraign remedy against drought, yet want of Sun is no way to be helped. Wherefore, to conclude this Chapter, let your ground lie so, that it may have the benefit of the South and West Sun, and so low and close, that it may have moisture, and increase his fatnesse, (for trees are the greatest suckers and pillers of earth) and (as much as may be) free from great Windes.

Chap. IIII.

Of the Quantity.

IT would be remembred what a benefit riseth, not onely to every particular owner of an Orchard, but also to the Common-wealth, by fruit, as shall be shewed in the 16 Chapter (God willing.) Whereupon must needs follow, the greater the orchard is (being good, & well kept) the better it is: for of good things, being equally good, the biggest is the best. And if it shall appear, that no ground a man occupieth (no, not the corn-field) yeeldeth more gain to the purse, and house-keeping (not to speak of the unspeakable pleasure) quantity for quantity, then a good Orchard, (besides, the cost in planting and dressing an Orchard, is not so much by far, as the labour and seeding of your Corn-fields, nor for durance of time comparable, besides the certainty of the one before the

Orchard as good as a Corn-field.

the other) I see not how any labour or cost in this kinde can be idly or wastfully bestowed, or thoght too much. And what other thing is a Vineyard, in those countries where Vines do thrive, then a large Orchard of trees bearing fruit? Or what difference is there in the juice of the grape, and our syder and perry, but the goodness of the soil and clime where they grow? which maketh the one more ripe, & so more pleasant then the other. What-soever can be said for the benefit rising from an orchard, that makes for the largeness of the Orchards bounds. And (methinks) they do preposterously, that bestow more cost and labour, and more ground in and upon a Garden, then upon an Orchard, whence they reap and may reap both more pleasure and more profit, by infinite degrees. And further, that a Garden, never so fresh, and fair, and well kept, cannot continue without both renewing of the earth and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept, shall dure divers hundred yeers, as shall be shewed *chap.* 14. In a large Orchard there is much labour saved, in fencing, and otherwise: for three little Orchards, or a few trees, being in a manner all out-sides, are so blasted and dangered, and commonly in keeping neglected, and require a great fence; whereas in a great Orchard, trees are a mutual fence one to another, and the keeping is regarded; and lesse fencing serves six acres together, then three in several inclosures.

Compared with a Vineyard.

Compared with a Garden.

Now what quantity of ground is meetest for an Orchard can no man prescribe, but that must be left to every mans several judgement, to be measured according to his ability and will, for other necessaries besides fruit must be had, and some are more delighted with Orchards then others.

What quantity of ground.

Let

Want is no hinderance.

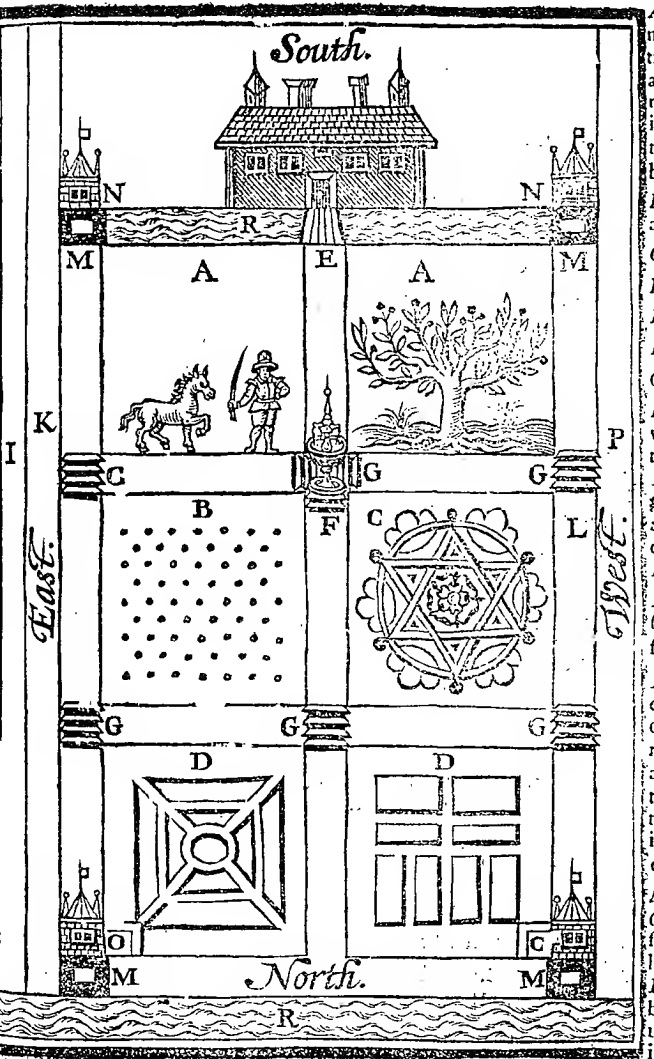
Let no man, having a fit plot, plead poverty in this case; for an Orchard once planted, will maintain it self, and yeeld infinite profit beside. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, and felt the profit and pleasure thereof, both they that have no Orchards, would have them, & they that have Orchards, would have them larger, yea fruit-trees in their hedges, as in *Worcester*-shire, *&c.* And I think, the want of planting is a great losse to our Common-wealth, and in particular, to the owners of Lordships, which Landlords themselves might easily amend, by granting longer term and better assurance to their tenants, who have taken up this Proverb, *Botch and sit, Build and flit:* for who will build or plant for another mans profit? Or the Parliament might enjoyn every occupier of grounds to plant and mantain for so many acres of fruitful ground, so many several trees or kindes of trees for fruit. Thus much for quantity.

How Landlords by their Tenants may make flourishing Orchards in England.

Chap. V.
Of the Form.

The goodnesse of the soil and site, are necessary to the well-being of an Orchard simply; but the form is so far necessary, as the owner shall think meet. For that kinde of form wherewith every particular man is delighted, we leave it to himself, *Suum cuique pulchrum.* The form that men like in general, is a square: for although roundnesse be *forma perfectissima*, yet that principle is good where necessity by Art doth not force some other form. If within one large square the Gardener shall make one round Labyrinth or Maze with some kinde of Berries, it will grace your form, so there be sufficient

The usual form is a square.



A. All these squares must bee set with trees, the Gardens and other ornaments must stand in spaces betwixt the trees, and in the borders and fences.

B. Trees 20. yards a sunder.

C. Garden Knots.

D. Kitchen garden.

E Bridge.

F. Conduit.

G. Staires.

H. Walkes set with great wood thicke.

I. Walkes set with great wood round about your Orchard.

K. The out fence.

L The out fence set with stone fruite.

M. Mount. To force earth for a mount, or such like set it round with quick, and lay boughes of trees strangely intermingled tops inward, with the earth in the midle.

N. Still-house.

O. Good standing for Bees, if you have an house.

P. If the river run by your doore, and under your mount, it will be pleasant.

sufficient

ſufficient roomth left for walkes, ſo will foure or more round knots do, For it is to be noted that the eye muſt be pleaſed with the forme. I have ſeen ſquares riſing by degrees with ſtays from your houſe-ward, according to this forme which I have, *Craſſa quod aiunt Minerva*, with an unſteady hand, rough hewen, for in forming country gardens, the better ſort may uſe better formes, and more coſtly worke. What is needfull more to be ſaid, I referre that all (concerning the Forme,) to the Chapter 17. of the ornaments of an Orchard.

CHAP. 6.
Of Fences.

Effects of evill fencing

ALL your labour paſt and to come about an Orchard is loſt unleſſe you fence well. It ſhall grieve you much to ſee your young ſets rubd looſe at the rootes, the barke pild, the boughes and twigs cropt, your fruite ſtolne, your trees broken, and your many yeares labours and hopes deſtroyed, for want of fences. A chiefe care muſt be had in this point. You muſt therefore plant in ſuch a ſoil, where you may provide a convenient, ſtrong and ſeemely fence. For you can poſſeſſe no goods, that have ſo many enemies as an orchard, look Chapter 13. Fruites are ſo delightſome, and deſired of ſo many (nay, in a manner of all) and yet few will be at coſt and take paines to provide them. Fence well therefore, let your plot be wholly in your owne power, that you make all your fence your ſelfe: for neighbours fencing is none at all, or very careleſſe. Take heed of a door or window, (yea of a wall) of any other mans into your orchard: yea, though it be nayld up, or the wall be high, for perhaps

Let the fence be your own.

perhaps they will prove theeves.

All Fences commonly are made of Earth, Stone, Bricke, Wood, or both earth and wood. Dry wall of earth, and dry Ditches are the worſt fences ſave pales or railes, and doe waſte the ſooneſt, unleſſe they be well copt with glooe and morter, wheron at *Michaell-tide* it will be good to ſow Wall-flowers, commonly called Bee-flowers, or winter Gilly-flowers, becauſe they will grow (though amongſt ſtones) and abide the ſtrongeſt froſt and drought, continually green and flowring even in Winter, and have a pleaſant ſmell, and are timely, (that is, they wil floure the firſt and laſt of flowers) and are good for Bees. And your earthen wall is good for Bees dry and warme. But theſe fences are both unſeemly, evill to repaire, and onely for need, where ſtone or wood cannot be had. Whoſoever makes ſuch Walles, muſt not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both unſeemely and unprofitable. Old dry earth mixt with ſand is beſt for theſe. This kind of wall will ſoone decay, by reaſon of the trees which grow neere it, for the rootes and boales of great trees, will increaſe, undermine, and overturne ſuch walls, though they were of ſtone, as is apparent by Aſhes, Rountrees, Burt-trees, and ſuch like, carried in the chat, or berry, by birds into ſtone walles. Kinds of fences, earthen walles.

Fences of dead-wood, as pales, will not laſt, neither will railes either laſt or make good fence. Pale and Raile.

Stone walls (where ſtone may be had) are the beſt of this ſort, both for fencing, laſting, and ſhrouding of your young trees. But about this muſt you beſtow much paines and more coſt, to have them handſome, high and durable. Stone walls.

But

Quicke wood and Moates.

But of all other in (mine own opinion) Quickwood, and Moates or Ditches of water, where the ground is levell, is the beſt fence. In unequall grounds, which will not keepe water, there a double ditch may be caſt, made ſtreight & level on the top, two yards broad for a faire walk, five or ſixe foot higher then the ſoyle, with a gutter on either ſide, two yards wide, and foure foot deepe, ſet without with three or foure cheſſe of thorns and within with Cherry, Plumme, Damſon, Bullys, Filbirds, (for I love theſe trees better for their fruit, and as well for their forme, as privit) for you may make them take any forme. And in every corner (and middle if you will) a mount would be raiſed, whereabout the wood may glaſpe, powdered with wood-binde: which will make with dreſſing a faire, pleaſant, profitable, and ſure fence. But you muſt be ſure that your quick thorns either grow wholly, or that there be a ſupply betime, either planting new, or plaſhing the old where need is. And aſſure your ſelfe, that neither wood, ſtone, earth, nor water, can make ſo ſtrong a fence, as this after ſeven yeares growth.

Moates.

Moates, Fiſh-ponds, and (eſpecially at one ſide a River) within and without your fence, will afford you fiſh, fence, and moyſture to your trees, and pleaſure alſo, if they be ſo great and deepe that you may have Swans, and other water birds, good for devouring of vermine, and boat for many good uſes.

It ſhall hardly availe you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will ſave it beſt from noyſome neighbours, liberality I ſay is the beſt fence, ſo Iuſtice muſt reſtraine rioters. Thus when your ground is tempered, ſquared, and fenced, it is time to provide for planting.

CHAP.

Chap. VII.

Of Sets.

Here is not one point (in my opinion) about an Orchard more to be regarded, then the choice getting and setting of good plants, either for readinesse of having good fruit, or for continual lasting: for whosoever shall fail in the choice of good Sets, or in getting, or gathering, or setting his plants, shall never have a good or lasting Orchard. And I take want of skill in this faculty, to be a chief hinderance to the most Orchards, and to many for having of Orchards at all.

Some for readinesse use slips, which seldome take root; and if they do take, they cannot last, both because their root having a main wound will in short time decay the body of the tree: and besides, that roots being so weakly put, are soon nipt with drought or frost. I could never see (lightly) any slip, but of apples onely, set for trees. Slips.

A Bur-knot kindly taken from an Apple-tree, is much better and surer. You must cut him close at the root end, an handful under the knot; (Some use in Summer about *Lammas* to circumcise him, and put earth to the knots with hay-roaps, & in winter cut him off and set him; but this is curiosity needlesse, and danger with removing and drought) and cut away all his twigs save one, the most principal, which in setting you must leave above the earth, burying his trunk in the crust of the earth for his root. It matters not much what part of the bough the twig grows out of. If it grow out of Bur-knot.

or neer the root end, ſome ſay ſuch an Apple will have no core nor kirnel. Or if it pleaſe the Planter, he may let his bough be crooked, and leave out his top end one foot, or ſomewhat more, wherein will be good grafting; if either you like not, or doubt the fruit of the bough, (for commonly your bur-knots are Summer-fruit) or if you think he wil not, cover his wound ſafely.

Uſual Sets. The moſt uſual kinde of Sets, are plants with roots growing, of kernels of Apples, Pears, and Crabbs, or ſtones of Cherries, Plums, *&c.* removed out of a Nurſery, Wood, or other Orchard, into, and ſet in your Orchard in their due places. I grant this kind to be better then either of the former by much, as more ſure and more durable. Herein you muſt note, that in ſets ſo removed, you get all the roots you can, and without bruiſing of any. I utterly diſlike the opinion of thoſe great Gardners, that following their books, would have the main roots cut away: for tops cannot grow without roots. And becauſe none can get all the roots, and removal is an hinderance, you may not leave on all tops, when you ſet them: For there is a proportion betwixt the top & root of a tree, even in the number (at leaſt) in the growth. If the roots be many, they will bring you many tops, if they be not hindred. And if you uſe to ſtow or top your tree too much or too lowe, & leave no iſſue, or little for ſap, (as is to be ſeen in your hedges) it will hinder the growth of roots and boal, becauſe ſuch a kinde of ſtowing is a kinde of ſmothering or choaking the ſap. Great wood, as Oak, Elm, Aſh, *&c.* being continually kept down with ſheers, knife, ax, *&c.* neither boal nor toot will thrive, but as an hedge or buſh. If you intend to graff in your Set, you may cut him cloſer with a greater wound, and neerer the earth, within a foot

Main roots cut.

Srow Sets removed.

foot or two, becauſe the graft or grafts will cover his wound. If you like his fruit, and would have him to be a tree of himſelf, be not ſo bold. This I can tell you, that though you do cut his top cloſe, and leave nothing but his bulk, becauſe his roots are few, if he be (but little) bigger then your thumb (as I wiſh all plants removed to be) he will ſafely recover wound within ſeven yeers, by good guidance, that is, if the next time of dreſſing, immediately above his uppermoſt ſprig, you cut him off aſlope cleanly, ſo that the ſprig ſtand on the back-ſide, (and if you can, Northward, that the wound may have the benefit of the Sun) at the upper end of the wound: and let that ſprig onely be the boal. And take this for a general rule; Every young plant, if he thrive, will recover any wound above the earth, by good dreſſing, although it be to the one half, and to his very heart. This ſhort cutting at the remove, ſaves your plants from winde, and need the leſſe or no ſtaking. I commend not lying or leaning of trees againſt holds or ſtays; for it breeds obſtruction of ſap, and wounds incurable. All removing of trees as great as your arm, or above, is dangerous; though ſometime ſome ſuch will grow, but not continue long, becauſe they be tainted with deadly wounds, either in the root or top: (and a tree once thorowly tainted, is never good.) And though they get ſome hold in the earth with ſome leſſer taw or taws, which give ſome nouriſhment to the body of the tree; yet the heart being tainted, he will hardly ever thrive; which you may eaſily diſcern by the blackneſſe of the boughs at the heart, when you dreſſe your trees. Alſo, when he is ſet with more tops then the roots can nouriſh, the tops decaying, blacken the boughs, and the boughs the arms,

General rule.

Tying of trees.

General rule.

Signes of diſeaſes, chap. 13.

and ſo they boil at the very heart. Or this taint in the removal, if it kill not preſently, but after ſome ſhort time, it may be diſcerned by blackneſſe or yellowneſſe in the bark, and a ſmall hungred leaf. Or if your removed plant put forth leaves the next & ſecond Summer, and little or few ſpraſes, is a great ſigne of a taint, and next yeers death. I have known a tree tainted in ſetting, yet grow, and bear bloſſoms for divers yeers; and yet for want of ſtrength could never ſhape his fruit.

Suckers good ſets.

Next unto this, or rather equal with theſe plants, are ſuckers growing out of the roots of great trees, which Cherries and Plums do ſeldom or never want: and being taken kindly with their roots, will make very good ſets. And you may help them much by enlarging their roots with the taws of the tree whence you take them. They are of two ſorts: Either growing from the very root of the tree: and here you muſt be careful, not to hurt your tree when you gather them, by ripping amongſt the roots; and that you take them clean away: for theſe are a great and continual annoyance to the growth of your tree; and they will hardly be cleanſed. Secondly, or they do ariſe from ſome taw: and theſe may be taken without danger, with long and good roots, and will ſoon become trees of ſtrength.

A running-plant.

There is another way, which I have not thorowly proved, to get not onely plants for graffing, but ſets to remain for trees, which I call a *Running-plant*: the manner of it is this: Take a root or kirnel, and put it into the middle of your plot, and the ſecond yeer in the Spring, geld his top, if he have one principal, (as commonly by nature they have) and let him put forth onely four cyons toward the four corners of the Orchard, as neer the earth as you can. If he put not four, (which

(which is rare) ſtay his top till he have put ſo many. When you have ſuch four, cut the ſtock aſlope, as is aforeſaid in this Chap. hard above the uppermoſt ſprig, and keep thoſe four without cyons clean and ſtreight, till you have them a yard and a half, at leaſt, or two yards long. Then the next Spring, in graffing-time, lay down thoſe four ſprays, towards the four corners of your Orchard, with their tops in a heap of pure and good earth, and raiſed as high as the root of your cyon, (for ſap will not deſcend) and a ſod to keep them down, leaving nine or twelve inches of the top to look upward. In that hill he will put roots, and his top new cyons, which you muſt ſpread as before, and ſo from hill to hill, till he ſpread the compaſſe of your ground, or as far as you liſt. If, in bending, the cyons crack, the matter is ſmall; cleanſe the ground, and he will recover. Every bended bough will put forth branches, and become trees. If this plant be of a Bur-knot, there is no doubt: I have proved it in one branch my ſelf: and I know at *Hilton* in *Cleveland*, a Pear-tree of a great bulk and age, blown cloſe to the earth, hath put at every knot roots into the earth, and from root to top, a great number of mighty arms or trees, filling a great room, like many trees, or a little Orchard. Much better may it be done by Art, in a leſſe tree. And I could not miſlike this kinde, ſave that the time will be long before it come to perfection.

Many uſe to buy ſets already grafted; which is not the beſt way: for firſt, all removes are dangerous: again, there is danger in the carriage: Thirdly, it is a coſtly courſe of planting: Fourthly, every Gardener is not truſty to ſell you good fruit: Fiftnly, you know not which is beſt, which is worſt, and ſo may take moſt care about Sets bought.

your worſt trees. Laſtly, this way keeps you from practice, and ſo from experience, in ſo good, Gentlemanly, Scholerlike, and profitable a facultie.

The beſt ſets. The onely beſt way (in my opinion) to have ſure and laſting ſets, is never to remove: for every remove is a hinderance, if not a dangerous hurt or deadly taint. This is the way: The plotform being laid, and the plot appointed where you will plant every ſet in your Orchard, dig the room where your ſet ſhall ſtand, a yard compaſſe, and make the earth mellow and clean, and mingle it with a few cole-aſhes, to avoid worms; and immediately after the firſt change of the Moon, in the later end of *February*, the earth being afreſh turned over, put in every ſuch room three or four kernels of Apples or Pears of the beſt; every kernel in an hole made with your finger, finger-deep, a foot diſtant one from another; and that day month following, as many more, (leſt ſome of the former miſſe) in the ſame compaſſe, but not in the ſame holes. Hence (God willing) ſhall you have roots enough. If they all, or divers of them come up, you may draw (but not dig) up (nor put down) at your pleaſure, the next *November*. How many ſoever you take away, to give or beſtow elſewhere, be ſure to leave two of the proudeſt. And when in your ſecond or third yeer you graff, if you graff then at all, leave the one of thoſe two ungraffed, leſt in graffing the other you fail: For I finde by trial, that after the firſt or ſecond graffing in the ſame ſtock, being miſt, (for who hits all?) the third miſſe puts your ſtock in deadly danger, for want of iſſue of ſap. Yea, though you hit in graffing, yet may your graffs with winde or otherwiſe be broken down. If your graffs or graff proſper, you have your deſire, in a plant unremoved, without

Unremoved. How.

without taint, and the fruit at your own choice, and ſo you may (ſome little earth being removed) pull, but not dig up the other Plant or Plants in that room. If your graff, or ſtock, or both periſh, you have another in the ſame place, of better ſtrength, to work upon: for thriving without ſnub, he will over-lay your grafted ſtock much. And it is hardly poſſible to miſſe in grafting ſo often, if your Gardener be worth his name.

It ſhall not be amiſſe (as I judge it) if your kernels be of choice fruit, and that you ſee them come forward proudly in their body, and bear a fair and broad leaf in colour, tending to a greeniſh yellow, (which argues pleaſant and great fruit) to try ſome of them ungrafted: for although it be a long time ere this come to bear fruit, ten or twelve yeers, or more; and at their firſt bearing, the fruit will not ſeem to be like his own kind: yet am I aſſured, upon trial, before twenty yeers growth, ſuch trees will increaſe the bigneſſe and goodneſſe of their fruit, and come perfectly to their own kinde. Trees (like other breeding creatures) as they grow in yeers, bigneſſe and ſtrength, ſo they mend their fruit. Husbands and Houſwives finde this true by experience, in the rearing of their young ſtore. More then this, there is no tree like this for ſoundneſſe and durable laſt, if his keeping and dreſſing be anſwerable. I grant, the readieſt way to come ſoon to fruit, is graffing; becauſe, in a manner, all your graffs are taken off fruit-bearing trees.

Sets ungrafted beſt of all.

Now when you have made choice of your ſets to remove, the ground being ready, the beſt time is, immediately after the fall of the leaf, in or about the change of the Moon, when the ſap is moſt quiet; for then the ſap is turning: for it makes no ſtay, but in the *extremi-*

Time of removing.

General rule.

ty of drought or cold. At any time in winter, may you tranſplant trees, ſo you put no ice nor ſnow to the root of your plant in the ſetting: and therefore open, calm, and moiſt weather is beſt. To remove, the leaf being ready to fall, & not fallen, or buds apparently put forth in a moiſt warm ſeaſon, for need, ſomtime may do well; but the ſafeſt is to walk in the plain troden path.

Some hold opinion, that it is beſt removing before the fall of the leaf; and I hear it is commonly practiſed in the South by our beſt Arboriſts, the leaf not fallen: and they give the reaſon to be, that the deſcending of the ſap will make ſpeedy roots. But mark the reaſons following, and I think you ſhall finde no ſoundneſſe either in that poſition or practice, at leaſt in the reaſon.

1. I ſay, It is dangerous to remove when the ſap is not quiet; for every remove gives a main check to the ſtirring ſap, by ſtaying the courſe thereof in the body of your plant, as may appear by trees removed any time in ſummer, they commonly die, nay hardly ſhall you ſave the life of the moſt yong and tender plant of any kinde of wood (ſcarcely herbs) if you remove them in the pride of ſap: for proud ſap univerſally ſtayed by removal, ever hinders, often taints, and ſo preſently, or in very ſhort time, kills. Sap is like blood in mans body, in which is the life, *cap.* 3. *p* 9. If the blood univerſally be cold, life is excluded: ſo is ſap tainted by untimely removal. A ſtay by drought, or cold, is not ſo dangerous (though dangerous, if it be extreme) becauſe more natural.

2. The ſap never deſcends, as men ſuppoſe; but is conſolidated & tranſubſtantiated into the ſubſtance of the tree, and paſſeth (always above the earth) upward, not onely betwixt the bark and the wood, but alſo into and

in

in both body & bark, though not so plentifully, as may appear by a tree budding, nay fructifying two or three yeers, after he be circumcised, at the very root, like a river that enlargeth his chanel by a continual descent.

3. I cannot perceive what time they would have the sap to descend. At *Midsummer* in a biting drought it stays, but descends not; for immediately upon moisture, it makes second shoots, at (or before rather) *Michaeltide*, when it shapens his buds for next yeers fruit. If at the fall of leaf, I grant, about that time is the greatest stand, but no descent of sap, which begins somwhat before the leaf fal, but not long; therefore at that time must be the best removing, not by reason of descent, but stay of sap.

4 The sap in this course hath its profitable and apparent effects; as the growth of the tree, covering of wounds, putting of buds, *&c.* whereupon it follows, if the sap descend, it must needs have some effect to shew it.

5. Lastly, boughs plasht, and laid lower then the root, die for want of sap descending, except where it is forced by the main stream of the sap, as in top-boughs hanging like water in pipes, or except the plasht boughs lying on the ground put roots of his own; yea under-boughs, which we commonly call water-boughs, can scarcely get sap to live, yea in time die, because the sap doth presse so violently upward, and therefore the fairest shoots and fruits are always in the top.

Object. If you say that many so removed thrive, I say that somwhat before the fall of the leaf (but not much) is the stand; for the fall and the stand are not at one instant: before the stand is dangerous. But to return. Remove soon.

The sooner in winter you remove your sets, the better; the later the worse: for it is very perillous if a strong drought take your sets before they have made good their

their rooting. A plant ſet at the fall, ſhall gain (in a manner) a whole yeers growth of that which is ſet in the Spring after.

The manner of ſetting. I uſe in the ſetting to be ſure that the earth be mouldy, (and ſomewhat moiſt) that it may run among the ſmall tangles without ſtraining or bruiſing: and as I fill in earth to his root, I ſhake the Set eaſily to and fro, to make the earth ſettle the better to his roots; and withal eaſily with my foot I put in the earth cloſe; for air is noyſome, and will follow concavities. Some preſcribe Oats to be put in with the earth: I could like it, if I could know any reaſon thereof. And they uſe to ſet their plants with the ſame ſide toward the Sun: but this conceit is like the other. For firſt, I would have every tree to ſtand ſo free from ſhade, that not onely the root (which therefore you muſt keep bare from graſſe) but body, boughs, and branches, and every ſpray, may have the benefit of Sun. And what hurt, if that part of the tree that before was ſhadowed, be now made partaker of the heat of the Sun? In turning of Bees, I know it is hurtful, becauſe it changeth their entrance, paſſage, and whole work: but not ſo in Trees.

Set in the cruſt. Set as deep as you can, ſo that in any wiſe you go not beneath the cruſt. Look *Chap.* 2.

Moiſture good. We ſpake in the ſecond Chapter of moiſture in general: but now eſpecially having put your removed plant into the earth, powre on water (of a puddle were good) by diſtilling preſently, and ſo every week twice, in ſtrong drought, ſo long as the earth will drink, and refuſe by over-flowing. For moiſture mollifies, & both gives leave to the roots to ſpread, and makes the earth yeeld ſap & nouriſhment with plenty & facility. Nurſes (they ſay) give beſt & moſt milk after warm drinks.

If

If your ground be ſuch, that it will keep no moiſture at the root of your plant, ſuch plant ſhall never like, or but for a time. There is nothing more hurtful for yong trees, then piercing drought. I have known trees of good ſtature, after they have been of divers yeers growth, & thrive well for a good time, periſh for want of water, and very many by reaſon of taints in ſetting.

It is meet your ſets and grafts be fenced, till they be as big as your arm, for fear of annoyances. Many ways may ſets receive damages, after they be ſet, whether grafted or ungrafted. For although we ſuppoſe, that no noyſome beaſt or other thing muſt have acceſſe among your trees; yet by caſualty, a Dog, Cat, or ſuch-like, or your ſelf, or negligent friend bearing you company, or a ſhrewd boy, may tread or fall upon a young and tender plant or graft. To avoid theſe and many ſuch chances, you muſt ſtake them round a pretty diſtance from the ſet, neither ſo neer, nor ſo thick, but that it may have the benefit of Sun, Rain, and Air. Your ſtakes (ſmal or great) would be ſo ſurely put, or driven into the earth, that they break not, if any thing happen to lean upon them, elſe may the fall be more hurtful then the want of the fence. Let not your ſtakes ſhelter any weeds about your ſets; for want of Sun is a great hinderance. Let them ſtand ſo far off, that your grafts ſpreading receive no hurt, either by rubbing on them, or of any other thing paſſing by. If your ſtock be long and high grafted, (which I muſt diſcommend (except in need) becauſe there the ſap is weak, and they are ſubject to ſtrong winde, & the lightings of birds) tie eaſily with a ſoft liſt three or four pricks, under the clay, and let their tops ſtand above the grafts, to avoid the lighting of Crows, Pies, *&c.* upon your grafts. If you ſtick

Grafts muſt be fenced.

ſome

ſome ſharp thorns at the roots of your ſtalks, they will make hurtful things keep off the better. Other better fences for your grafts I know none. And thus much for ſets and ſetting.

CHAP. VIII.

Of the diſtance of trees.

I Know not to what end you ſhould provide good ground, well fenced, and plant good ſets; and when your trees ſhould come to profit, have all your labours loſt, for want of due regard to the diſtance of placing your trees. I have ſeen many trees ſtand ſo thick, that one could not thrive for the throng of his neighbours. If you do mark it, you ſhall ſee the tops of trees rubbed off, their ſides galled like a gall'd horſe back; and many trees have more ſtumps then boughs, and moſt trees not well thriving, but ſhort, ſtumpiſh, and evil-thriving boughs; like a Corn-field over-ſeeded, or a Town over-peopled, or a Paſture over-laid; which the Gardener muſt either let grow, or leave the tree very few boughs to bear fruit. Hence ſmall thrift, galls, wounds, diſeaſes, and ſhort life to the trees: and while they live, green, little, hard, worm-eaten, and evil-thriving fruit ariſe, to the diſcomfort of the owners.

Hurts of too neer planting.

To prevent which diſcommodity, one of the beſt remedies is, the ſufficient & fit diſtance of trees. Therefore at the ſetting of your plants, you muſt have ſuch reſpect, that the diſtance of them be ſuch, that every tree be not annoyance, but an help to his fellows: for trees (as all other things of the ſame kind) ſhould ſhroud, and not

not hurt one another. And assure your self, that every touch of trees (as well under as above the earth) is hurtful: Therefore this must be a general rule in this Art, That no tree in an Orchard well ordered, nor bough, nor cyon, drop upon or touch his fellows. Let no man think this impossible, but look in the eleventh Chapter of dressing of trees. If they touch, the winde will cause a forcible rub. Young twigs are tender, if boughs or arms touch or rub, if they are strong, they make great galls. No kinde of touch therefore in trees can be good.

General rule.

All touches hurtful.

Now it is to be considered what distance amongst sets is requisite, & that must be gathered from the compasse and room that each tree by probability will take and fill. And herein I am of a contrary opinion to all them which practise or teach the planting of trees, that ever yet I knew, read, or heard of: for the common space between tree and tree, is ten foot; if twenty foot, it is thought very much. But I suppose 20 yards distance is small enough betwixt tree and tree, or rather too too little. For the distance must needs be as far as two trees are well able to over-spread and fill, so they touch not by one yard at least. Now I am assured, and I know one Apple-tree, set of a slip *finger-great*, in the space of 20 yeers, (which I account a very small part of a trees age, as is shewed Chapter 14.) hath spred his boughs eleven or twelve yards compasse, that is, five or six yards on every side. Hence I gather, that in fourty or fifty yeers, (which yet is but a small time of his age) a tree in good soil, well liking, by good dressing (for that is much available to this purpose) will spread double at the least, *viz.* twelve yards on a side; which being added to 12 allotted to his fellow, make twenty and four yards, and so

The best distance of trees.

so far distant must every tree stand from another. And look how far a tree spreads his boughs above, so far doth he put his roots under the earth, or rather further, if there be no stop nor let by walls, trees, rocks, barren earth, and such-like: for an huge bulk, and strong arms, massie boughs, many branches, and infinite twigs, require wide spreading roots. The top hath the vast air to spread his boughs in, high and lowe, this way and that way; but the roots are kept in the crust of the earth, they may not go downward, nor upward out of the earth, which is their element, no more then the Fish out of the water, Camelion out of the air, nor Salamander out of the fire. Therefore they must needs spread far under the earth. And I dare well say, If Nature would give leave to man by Art, to dresse the roots of trees, to take away the taws and tangles that lap and fret, and grow superfluously and disorderly, (for every thing *sublunary* is cursed for mans sake) the tops above being answerably dressed, we should have trees of wonderful greatnesse, and infinite durance. And I perswade my self that this might be done sometimes in Winter, to trees standing in fair plains and kindly earth, with small or no danger at all. So that I conclude, that twenty four yards is the least space that Art can allow for trees to stand distant one from another.

The parts of a tree.

If you ask me what use shall be made of that waste ground betwixt tree and tree: I answer; If you please to plant some tree or trees in that middle space, you may; and as your trees grow contiguous, great & thick, you may at your pleasure take up those last trees. And this I take to be the chief cause why the most trees stand so thick: for men not knowing (or not regarding) this secret of needful distance, and loving fruit of trees planted

Waste ground in an Orchard

planted to their hands, think much to pull up any, though they pine one another. If you or your heirs or ſucceſſors would take up ſome great trees (paſt ſetting) where they ſtand too thick, be ſure you do it about *Mid-ſummer*, and leave no main roors. I deſtinate this ſpace of four and twenty yards, for trees of age and ſtature. More then this, you have borders to be made for walks, with Roſes, Berries, *&c.*

And chiefly conſider, that your Orchard, for the firſt twenty or thirty yeers, will ſerve you for many Gardens, for Saffron, Licoras, roots, and other herbs for profit, and flowers for pleaſure: ſo that no ground need be waſted, if the Gardener be skilful and diligent. But be ſure you come not neer with ſuch deep delving the roots of your trees, whoſe compaſſe you may partly diſcern, by the compaſſe of the tops, if your top be well ſpread. And under the droppings and ſhadow of your trees, be ſure no herbs will like. Let this be ſaid for the diſtance of trees.

CHAP. IX.
Of the placing of trees.

THe placing of trees in an Orchard, is well worth the regard: For although it muſt be granted, that any of our foreſaid trees (Chap. 2.) will like well in any part of your Orchard, being good & wel-dreſt earth; yet are not all trees alike worthy of a good place. And therefore I wiſh that your Filbert, Plums, Damſons, Bulleſſe, and ſuck-like, be utterly removed from the plain ſoil of your Orchard into your fence: for there is not ſuch fertility and eaſeful growth,

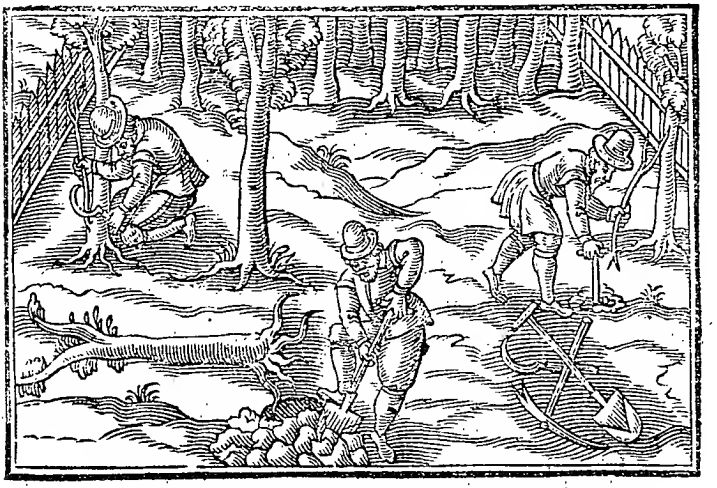
as

as within: and there alſo they are more ſubject, and can abide the blaſts of *Æolus*. The Cherries and Plums being ripe in the hot time of Summer, and the reſt ſtanding longer, are not ſo ſoon ſhaken as your better fruit: neither, if they ſuffer loſſe, is your loſſe ſo great. Beſides that, your fences and ditches will devour ſome of your fruit growing in or neer your hedges. And ſeeing the continuance of all theſe (except Nuts) is ſmall, the care of them ought to be the leſſe. And make no doubt, but the fences of a large Orchard will contain a ſufficient number of ſuch kinde of Fruit-trees in the whole compaſſe. It is not material, but at your pleaſure, in the ſaid Fences, you may either intermingle your ſeveral kindes of Fruit-trees, or ſet every kinde by himſelf, which order doth very well become your better and greater fruit. Let therefore your Apples, Pears, and Quinches, poſſeſſe the ſoil of your Orchard, unleſſe you be eſpecially affected to ſome of your other kinds: and of them, let your greateſt trees of growth ſtand furtheſt from Sun, and your Quinches at the ſouth-ſide or end, and your Apples in the middle; ſo ſhall none be any hinderance to his fellows. The Warden-tree, and Winter-pear, will challenge the preeminence for ſtature. Of your Apple-trees, you ſhall finde a difference in growth. A good Pippin will grow large, and a Coſtard-tree: ſtead them on the North-ſide of your other Apples; thus being placed, the leaſt will give Sun to the reſt, and the greateſt will ſhroud their fellows. The Fences and out-trees will guard all.

CHAP.

CHAP.
Of Grafting.

NOw are we come to the moſt curious point of our faculty: curious in conceit, but in deed as plaine and eaſie as the reſt, when it is plainely ſhewne, which we commonly call *Graffing*, or after (after ſome) *Grafting*. I cannot *Etymologize*, nor ſhew the originall of the Word, except it come of *Graving* and *Carving*. Of Graving or Carving. Graffing what.



But the thing or matter is: The reforming of the fruite of one tree with the fruit of another, by an artificiall tranſplacing or tranſpoſing of a twigge, bud or leafe, commonly called a *Graft*) taken from one tree of the ſame, or ſome other kinde, and placed or put to, or into another tree in one time and manner. A Graffe.

Kinds of grafting.

Of this there be diverskinds, but three or foure now especially in use: to wit, Grafting, inciſing, packing on, grafting in the ſcutchion, or in oculating: whereof the chiefe and moſt uſuall, is called grafting (by the generall name, *Cutexochen:*) for it is the moſt knowne, ſureſt, readieſt, and plaineſt way to have ſtore of good fruit.

Graft how.

It is thus wrought; You muſt with a fine, thin, ſtrong and ſharpe Saw, made and armed for that purpoſe, cut off a foot above the ground, or thereabouts, in a plaine without a knot, or as neare as you can without a knot (for ſome ſtocks will bee knotty) your Stocke, ſet, or plant, being ſurely ſtayed with your foot and legge, or otherwiſe ſtraight overthwart (for the Stocke may bee crooked) and then plaine his wound ſmoothly with a ſharpe knife: that done, cleave him cleanly in the middle with a cleaver, and a knocke or mall, and with a wedge of wood, Iron or Bone, two hanfull long at leaſt, put into the middle of that clift, with the ſame knocke, make the wound gape a ſtraw bredth wide, into which you muſt put your Graffes.

A Graft what.

The graft is a top twig taken from ſome other Tree (for it is a folly to put a graffe into his own Stocke) beneath the uppermoſt (and ſometime in need the ſecond) knot, and with a ſharpe knife fitted in the knot (and ſometime out of the knot when need is) with ſhoulders an inch downeward, and ſo put into the ſtocke with ſome thruſting (but not ſtraining) barke to barke inward.

Eyes.

Let your graffe have three or foure eyes for readineſſe to put forth, and give iſſue to the ſap. It is not amiſſe to cut off the top of your graffe, and leave it but five or ſixe inches long, becauſe commonly you ſhall

ſee

ſee the tops of long graffes die. The reaſon is this. The ſap in graffing receives a rebuke, and cannot worke ſo ſtrongly preſently, and your graffes receive not ſap ſo readily, as the naturall branches. When your graffes are cleanly and cloſely put in, and your wedge puld out nimbly, for feare of putting your graffes out of frame, take well tempered morter, ſoundly wrought with chaffe or horſe dung (for the dung of cattell will grow hard, and ſtraine your graffes) the quantity of a Gooſes egge, and divide it juſt, and therewithall cover your ſtocke, laying the one halfe on the one ſide, and the other halfe on the other ſide of your graffes, (for thruſting againſt your graffes) you move them, and let both your hands thruſt at once, and alike, and let your clay be tender, to yeeld eaſily; and all, leſt yon move your graffes. Some uſe to cover the cleft of the Stocke, under the clay, with a piece of barke or leafe, ſome with a ſear-cloth of waxe and butter, which as they be not much needful, ſo they hurt not, unleſſe that by being buſie about them, you move your graffes from their places. They uſe alſo moſſe tyed on above the clay with ſome bryar, wicker, or other bands. Theſe profit nothing. They all put the graffes in danger, with pulling and thruſting: for I hold this generall rule in graffing and planting: if your ſtocke and graffes take, and thrive (for ſome will take and not thrive, being tainted by ſome meanes in the planting or graffing) they will (without doubt) recover their wounds ſafely and ſhortly. *Generall rule.*

The beſt time of graffing from the time of removing your ſtocke is the next Spring, for that ſaves a ſecond wound, and a ſecond repulſe of ſap, if your ſtocke be of ſufficient bigneſſe to take a graffe from as bigge as your *Time of graffing.*

thumbe, to as big an arme of a man. You may graffe leſſe (which I like) and biger, which I like not ſo well. The beſt time of the yeere is in the laſt part of *February*. or *March*, or beginning of *Aprill*, when the Sunne with his heat begins to make the ſap ſtirre more rankly about the change of the moon before yon ſee any great apparency of leafe or flowers but only knots and buds, & before they be proud, though it be ſooner Cherries, Peares, Apricoks, Quinces, and plummes would be gathered and grafted ſooner.

Gathering of graffes. The graffes may be gathered ſooner in *February*, or any time within a month, or two before your graffe, or upon the ſame day (which I commend) If you get them any time before, for I have knowne graffes gathered in *December* and doe well, take heed of drought. I havs my ſelf taken a burk not of a tree, & the ſame day when he was laid in the earth about mid *February*, gathered grafts and put in him, and one of thoſe graffes bore the third yeare after, and the fourth plentifully; Graffes of old trees would be gathered ſooner then of young trees for they ſooner breake and bud. If you keepe graffes in the earth, moiſture with the heat of the Sun will make them ſprout as faſt, as if they were growing on the tree And therefore ſeeing keeping is dangerous, the ſureſt way (as I judge) is to take them within a weeke of the time of your grafting.

Graffes of old trees.

The grafts would be taken not of the proudeſt twigs, for it may be your ſtocke is not anſwerable in ſtrength. And therefore (ſay I) the grafts brought from South to us in the north although they take and thrive (which is ſomewhat doubtfull, by reaſon of the difference of the clime and carrage) yet ſhall they in time faſhion themſelves to our cold Notherne ſoile, in groth, taſte &c.

Where taken.

Nor of the pooreſt, for want of ſtrength may make them unready to receive ſap (and who can tell but a poore graft is tainted) nor on the outſide of your tree, for there ſhould your tree ſpread but in the middeſt: for there you may be ſure your tree is no whit hindered in his growth or forme. He will ſtill recover inward, more then you would wiſh. If your clay clift in Summer with draught, looke well in the Chinkes for Emmits and Earewigs, for they are cunning and cloſe theeves, about grafts you ſhall find them ſtirring in the morning and evening, and the rather in the moiſt weather. I have had many young buds of Graffes, even in the flouriſhing, eaten with Ants. Let this ſuffice for graffing, which is in the faculty counted the cheife ſecret, and becauſe it is moſt uſuall, it is beſt knowne. Emmits.

Graffes are not to be diſliked for growth, till they wither, pine, and die. Vſually before *Midſummer* they break, if they live. Some (but few) keeping proud and greene, will not put till the ſecond yeere, ſo is it to be thought of ſets.

The firſt ſhew of putting is no ſure ſigne of growth, it is but the ſap the graf brought with him from his tree.

So ſoon as you ſee the graft put for growth, take away the clay, for then doth neither the ſtocke nor the graffe need it (put a little freſh well tempered clay in the hole of the ſtock) for the clay is now tender, and rather keepes moiſture then drought.

The other waies of changing the naturall fruit of Trees, are more curious then profitable, and therefore I minde not to beſtow much labour or time about them, onely I ſhall make knowne what I have proved, and what I doe thinke.

And firſt of inciſing, which is the cutting of the back of Inciſing.

of the boale, a rine or branch of a tree at ſome bending or knee, ſhoulderwiſe with two gaſhes, onely with a ſharp knife to the wood: then take a wedge, the bignes of your graf ſharp ended, flat on the one ſide, agreeing with the tree, & round on the other ſide, and with that being thruſt in, raiſe your bark, then put in your graffe, faſhioned like your wedge juſt: and laſtely cover your wound, and faſt it up, and take heed of ſtraining. This will grow but to ſmall purpoſe, for it is weak hold, and lightly it will be under growth. Thus may you graft betwixt the barke and the tree of a great ſtocke that will not eaſily be clifted: But I have tryed a better way for great trees, *viz.* Firſt, cut him off ſtraight, and cleanſe him with your knife, then cleave him into four quarters, equally with a ſtrong cleaver: then take for every clift two or three ſmall (but hard) wedges, juſt of the bigneſſe of your grafts, and with thoſe Wedges driven in with a hammer, open the four clifts ſo wide (but no wider) that they may take your foure graffes, with thruſting, not with ſtraining: and laſtly cover and clay it cloſely, and this is a ſure and good way of grafting: or thus, clift your ſtocke by his edges twice or thrice with your cleaver, and open him with your wedge in every clift one by one, and put in your grafts and then cover them. This may doe well.

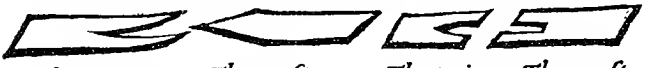
A great ſtock.

Packing on, is when you cut aſlope a twig of the ſame bigneſſe with your graft, either in or beſides the knot, two inches long, & make your graft agree jumpe with the cyon, & gaſh your graft and your cyon in the middeſt of the wound, length-way, a ſtraw breadth deepe, and thruſt the one into the other, wound to wound, ſap to ſap, barke to barke, then tie them cloſe and clay them. This may doe well. The faireſt graft I have

Packing thus.

have in my little Orchard, which I have planted, is thus packt on, and the branch whereon I put him, is in his plentifull roote.

To be ſhort in this point, cut your graft in any ſort or faſhion, two inches long, and joyne him cleanly and cloſe to any other ſprig of any tree in the latter end of the time of grafting, when ſap is ſomew hat rife, and in all probability they will cloſe and thrive: thus



The ſprig. *The graft.* *The twig.* *The graft.*

Or any other faſhion you thinke good.

Inoculating is an eye or bud, taken bark and all from one tree, and placed in the room of another eie or bud of another, cut both of one compas, and there bound. This muſt be done in Summer, when the ſap is proud. Inoculating.

Much like unto this, is that they call grafting in the ſcutchion, they differ thus: That here you muſt take an eie with his leafe, or (in mine opinion) a bud with his leaves. (Note that an eie is for a eyon, a bud is for flowers & fruit,) and place them on an other tree, in a plain (for ſo they teach) the place or barke where you muſt ſet it, muſt be thus cut with a ſharpe knife, and the barke raiſed with a wedge, and then the eie or bud put in and ſo bound up. I cannot denie but ſuch may grow. And your bud if he take wil flowre and beare fruit in that yeer: as ſome grafts & ſets alſo, being ſet for bloomes. If theſe two kindes thrive, they reforme but a ſpray, and an undergrowth. Thus you may place Roſes, on thornes, & cherries on apples, and ſuch like. Many write much more of grafting, but to ſmall purpoſe. Whom we leave to themſelves, & their followers, and ending this ſecret we come in the next Grafting in the Scutchion.

Chapter to a point of knowledge moſt requiſite in an Arboriſt, as well for all other woods as for an Orchard.

CHAP. II.
Of the right dreſſing of Trees.

Neceſſity of dreſſing trees.

IF all theſe things aforeſaid were indeed performed, as we have ſhewed them in words, you ſhould have a perfect Orchard in nature and ſubſtance, begunne to your hand: And yet are all theſe things nothing, if you want that skil to keepe and dreſſe your trees. Such is the condition of all earthly things, whereby a man receiveth profit or pleaſure, that they degenerate preſently without good ordering. Man himſelfe left to himſelfe, growes from his heavenly and ſpirituall generation, and becommeth beaſtly, yet de viliſh to his owne kind, unleſſe he be regenerate. No marvell then, if trees make their ſhootes, and put their ſpraies diſorderly. And truly (if I were worthy to judge) there is not a miſchief that breedeth greater and more generall harme to all the orchard (eſpecially if they be of any continuance) that ever I ſaw, (I will not except three) then the want of the skilfull dreſſing of trees. It is a common and unskilfull opinion, and ſaying, Let all grow, and they will beare more fruit: & if thou lop away ſuperfluous boughs, they ſay, what a pitty is this? how many apples would theſe have borne? not conſidering there may ariſe hurt to your orchard, aſwell (nay rather) by abundance, as by want of wood, ſound and thriving plant in a good ſoile, will ever yeeld too much wood, and diſorderly, but never too little. So that a skilfull and painfull Arboriſt need never

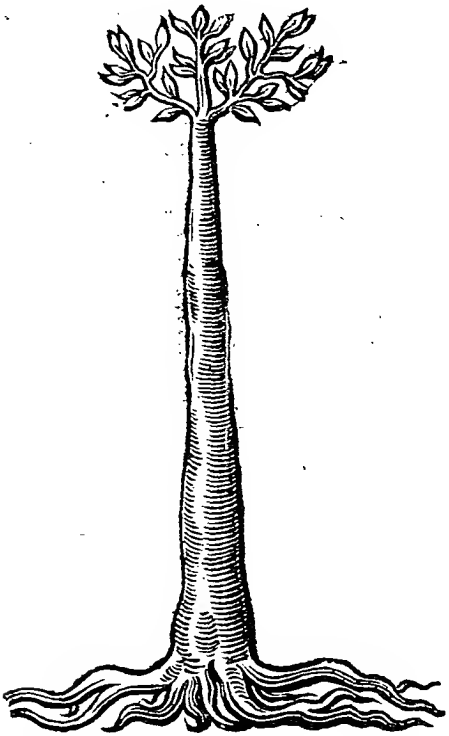
Generall rule

never want matter to effect a plentifull and well dreſt orchard: for it is an eaſie matter to take away ſuperfluous boughs, (if your gardner have skil to know them) whereof your plants will yeeld abundance, and skill will leave ſufficient well ordered. All ages both by rule and experience do conſent to a pruning and lopping of trees: yet have not any that I know deſcribed unto us (except in dark and generall words) what or which are thoſe ſuperfluous boughes, which we muſt take away, and that is the chiefe and moſt needfull point to be known in lopping. And we may well aſſure our ſelves, (as in all other Arts, ſo in this) there is a vantage and dexterity, by skill, and an habite by practice out of experience, in the performance hereof for the profit of mankind; yet doe I not know (let me ſpeak it with the patience of our cunning Arboriſts) any thing within the compaſſe of humane affaires ſo neceſſary, and ſo little regarded, not onely in Orchards, but alſo in all other timber trees, where or whatſoever.

How many forreſts and woods wherein you ſhall have for one lively thriving tree, foure (nay ſometimes 24.) evill thriving, rotten and dying trees, even while they live? And inſteed of trees thouſands of buſhes and ſhrubs. What rottenneſſe? what hollownes? what dead armes? withered tops? curtalled trunks? what loads of moſſes? drouping boughes? & dying branches ſhall you ſee every where? And thoſe that like in this ſort are in a manner all unprofitable boughs, cankred armes, crooked, little and ſhort boales: what an infinite number of buſhes, ſhrubs, and ſkrogs of hazels, thornes, and other profitable wood, which might be brought by dreſſing to become great and goodly trees. Conſider now the cauſe: The leſſer wood hath beene ſpoyled with

Timber wood evill dreſt.

The cauſe of hurts in woods.



Imagine the roote to be ſpread farre wider.

with careleſſe, unskilfull, and untimely ſtowing, and much alſo of the great wood. The greater trees at the firſt riſing have filled and over-laden themſelves with a number of waſteful boughes and ſuckers, which have not only drawne the ſap from the boale, but alſo have made it knotty, and themſelves and the boale moſſie for want of dreſſing, whereas if in the prime of growth they

they had been taken away cloſe, all but one top (according to this patterne) and cleane by the bulke, the ſtrength of all the ſap ſhould have gone to the bulke, and ſo he would have recovered and covered his knots, and have put forth a faire long and ſtreight body (as you ſee) for timber profitable, huge, great of bulke, and of infinite laſt. Dreſſe timber trees how.

If all timber trees were ſuch (will ſome ſay) how ſhould we have crooked wood for wheels, coorbs, &c.

Anſw. Dreſſe all you can, and there will be enough crooked for thoſe uſes.

More than this, in moſt places, they grow ſo thicke, that neither themſelves, nor earth, nor any thing under or neer them can thrive, nor Sunne, nor raine, nor aire can doe them, nor any thing neer or under them, any profit or comfort.

I ſee a number of Hags, where out of one roote you ſhall ſee three or four (nay more) ſuch as mens unskilfull greedineſſe, who deſiring many have none good) pretty Okes or Aſhes, ſtraight and tall, becauſe the root at the firſt ſhoote gives ſap amaine: but if one onely of them might bee ſuffered to grow, and that well and cleanely pruned, all to his very top, what a tree ſhould we have in time? And we ſee by thoſe rootes continually and plentifully ſpringing, notwithſtanding ſo deadly wounded, What a commodity ſhould ariſe to the owner, and the Common-wealth, if wood were cheriſhed, and orderly dreſſed.

The waſte boughs cloſely and skilfully taken away, would give us ſtore of fences and fewell, and the bulk of the tree in time would grow of huge length and bignes. But here (me thinkes) I hear an unskilfull Arboriſt ſay, that trees have their ſeverall formes, even by nature, Profit of trees dreſſed.

ture, the Peare, the Holly, the Aſpe, &c. grow long in bulke with few and little armes, the Oke by nature broad, and ſuch like. All this I grant: but grant me alſo, that there is a profitable end, and uſe of every tree, from which if it decline (though by nature) yet man by art may (nay muſt) correct it. Now other end of trees I never could learn, then good timber, fruit much and good, and pleaſure. Vſes phyſicall hinder nothing a good forme.

The end of trees.

Trees will take any forme.

Neither let any man ever ſo much as thinke, that it is unprofitable, much leſſe unpoſſible, to reform any tree of what kind ſoever. For (beleeve me) I have tried it, I can bring any tree (beginning by time) to any forme. The Peare and Holly may be made to ſpread, and the Oke to cloſe.

But why doe I wander out of the compaſſe of mine Orchard, into the Forreſts and Woods? Neither yet am I from my purpoſe, if boales of timber trees ſtand in need of al the ſap, to make them great and ſtreight (for ſtrong growth and dreſſing makes ſtrong trees) then it muſt needs be profitable for fruit (a thing more immediately ſerving a mans need) to have all the ſap his root can yeeld: for as timber ſound, great and long, is the *good of timber teees*, and therefore they beare no fruite of worth: ſo fruit, good, ſound, pleaſant, great and much, is the end of fruit-trees. That gardner therefore ſhall perform his duty skilfully and faithfully, which ſhall ſo dreſſe his trees, that they may beare ſuch and ſuch ſtore of fruit, which he ſhal never do (dare undertake) unleſſe he keepe this order in dreſſing his trees.

The end of Trees.

How to dreſſe a fruit-tree.

A fruit tree ſo ſtanding, that there need none other end of dreſſing but fruit (not ornaments but walks, nor delight to ſuch as would pleaſe their eye only, and yet the

the beſt forme cannot but both adorne & delight) muſt be parted from within two foot, or there abouts, of the earth, ſo high to give liberty to dreſſe his roote, and no higher, for drinking up the ſape that ſhould feede his fruit, for the boale will be firſt, and beſt ſerved and fed, becauſe he's next the roote, and of greateſt waxe and ſubſtance, and that makes him longeſt of life, into two, three, or foure armes, as your ſtocke or graffes yeeld twigs, and every arme into two or more branches, and every branch into his ſeverall Cyons, ſtill ſpreading by equall degrees, ſo that his loweſt ſpray be hardly without the reach of a mans hand, and his higheſt be not paſt two yards higher, rarely (eſpecially in the middeſt) that no one twig touch his fellow. Let him ſpread as farre as he liſt without his maiſter-bough, or lop equally. And when any bough doth grow ſadder and fall lower than his fellowes (as they will with weight of fruit (eaſe him the next ſpring of his ſuperfluous twigs, and he will Riſe: when any bough or ſpray ſhal amount above the reſt; either ſnub his top with a nip betwixt your finger and your thumbe, or with a ſharpe knife, and take him cleane away, and ſo you may uſe any Cyon you would reforme, and as your tree ſhall grow in ſtature and ſtrength, ſo let him riſe with his tops but ſlowly, and earely, eſpecially in the middeſt, and equally, and in breadth alſo, & follow him upward with lopping his under growth and water boughes, keeping the ſame diſtance of two yards, but not above three in any wiſe, betwixt the loweſt and the higheſt twigs.

1. Thus you ſhall have well liking, cleane skind, healthfull great, and long laſting trees. Benefits of good dreſſing.

2. Thus ſhall your tree grow low, and ſafe from winds, for his top will be great, broad and weighty.

3. Thus

3. Thus growing broad, ſhall your trees beare much fruit (I dare ſay) one as much as ſixe of your common trees, and good without ſhadowing, dropping and fretting; for his boughs, branches, and twigs ſhall be many, and thoſe are they (not the boale) which bear the fruit.

4. Thus ſhall your boale being little (not ſmall but low) by reaſon of his ſhortneſſe, take little, and yeeld much ſap to the fruit.

5. Thus your trees by reaſon of ſtrength in time of ſetting ſhall put forth more bloſſomes and more fruite being free from taints; for ſtrength is a great helpe to bring forth much and ſafely, whereas weakeneſſe fails in ſetting, though the ſeaſon be calme.

Some uſe to bare trees roots in winter, to ſtay the ſetting till hotter ſeaſons, which I diſcommend, becauſe

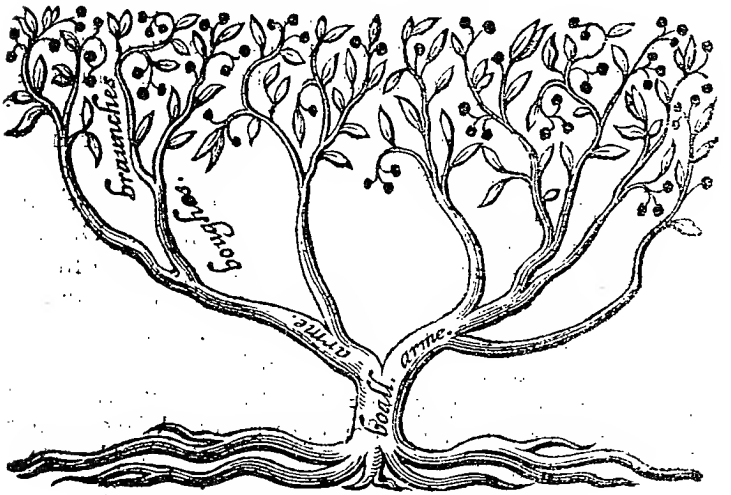
1. They hurt the rootes.
2. It ſtayes it nothing at all.
3. Though it did, being ſmall, with us in the North, they have their part of our *Aprill* and *Mayes* froſts.
4. Hinderance cannot profit weake trees in ſetting.
5. They waſt much labour.
6. Thus ſhall your tree be eaſie to dreſſe, and without danger, either to the tree or the dreſſer.
7. Thus may you ſafely and eaſily gather your fruit without falling, bruiſing or breaking of Cyons.

This is the beſt form of a fruite tree, which I have here only ſhadowed out for the better capacity of them that are led more with the eye, then the mind, craving pardon for the deformitie, becauſe I am nothing skilfull either in the painting or carving.

Imagine that the paper makes but one ſide of the tree to appear, the whole round compaſſe wil give leave for many more armes, boughes, branches, and Cyons.

The

The perfect forme of a Fruit-tree.



If any thinke a tree cannot well be brought to this forme: *Experto credo Roberto*, I can shew divers of them under twenty yeeres of age.

The fittest time of the Moone for proyning is as of grafting, when the sap is ready to stirre (not proudly stirring) and so to cover the wound, and of the yeere, a moneth before (or at least when) you graffe. Dresse Peares, Apricocks, Peaches, Cherries, and Bullyes sooner. And old trees before young plants, you may dresse at any time betwixt Leafe and Leafe. And note, where you take any thing away, the sap the next summer will be putting: be sure therefore when he puts a bud in any place where you would not have him, rub it off with your finger. Time best for proyning.

And

Dreſſing betime.

And here you muſt remember the common homely Proverbe:

Soone crookes the tree,
That good Camwell muſt be.

Beginne betime with trees, and do what you liſt: but if you let them grow great and ſtubborne, you muſt do as the trees liſt. They will not bend but breake, nor bee wound without danger. A ſmall branch will become a bough, and a bough an arme in bigneſſe. Then if you cut him his wound will feſter, and hardly without good ſkill recover: therefore, *Obſta principijs.* Of ſuch wounds, and leſſer, or any bough cut off a handfull or more from the body, comes hollowneſſe, and untimely death. And therefore when you cut, ſtrike cloſe, and cleane, and upward, and leave no bunch.

Faults of evill dreſt trees, and the remedy.

The forme altered.

This forme in ſome caſes ſometimes may be altered: If your tree, or trees, ſtand neare your Walkes, if it pleaſe your fancy more, let him not breake till his boale be above your head: ſo may you walke under your trees at your pleaſure. Or if you ſet your fruit trees for your ſhades in your Groaves, then I reſpect not the forme of the tree, but the comelineſſe of the walke.

Dreſſing of old trees.

All this hitherto ſpoken of dreſſing, muſt be underſtood of young plants, to be formed: it is meete ſomewhat be ſaid for the inſtruction of them that have old trees already formed, or rather deformed: for *Malum non vitatur neſi cognitum.* The faults therefore of a diſordered tree, I finde to be five.

Faults are five, and their remedies.

1. An unproffitable boale.
2. Water boughes.
3. Fretters.
4. Suckers. And,
5. One principall top.

A long

A long boale asketh much feeding, and the more he hath the more he desires, and gets (as a drunken man drinke, or a covetous man wealth) and the lesse remaines for the fruit, he puts his boughs into the aire, and makes them, the fruit, and it selfe more dangered with windes: for this I know no remedy, after that the tree is come to growth; once evill, never good.

Water boughs, or under growth, are such boughes as grow low under others, and are by them overgrown, overshadowed, dropped on, & pinde for want of plenty of sap, and by that meanes in time die: For the sap presseth upward; and it is like water in her course, where it findeth most issue, thither it floweth, leaving the other lesser sluces dry: even as wealth to wealth, and much to more. These so long as they beare, they beare lesse, worse, and fewer fruit, and waterish. Water boughs.

The remedy is easie, if they be not growne greater then your arme. Lop them close and clean, and cover the middle of the wound, the next Summer when he is dry, with a salve made of tallow, tarre, and a very little pitch, good for the covering of any such wound of a great tree: unles it be bark-pild, and then a sear-cloth of fresh butter, hony, and waxe, presently (while the wound is green) applyed, is a soveraigne remedy, in Summer especially. Some bind such wounds with a thumbe rope of Hay, moist, and rub it with dung. Remedy. Bark-pild, and the remedy

Fretters are, when as by the negligence of the Gardner, two or moe parts of the tree, or of diverse trees, as armes, boughes, branches, or twigs, grow so neere and close together, that one of them by rubbing, doth wound another. This fault of all other shewes the want of skil or care (at least) in the arborist: for here the hurt is apparant, and the remedy easie, seen to betime: galls Fretters. Touching. Remedy.

and wounds incurable, but by taking away thoſe members : for let them grow, and they will be worſe and worſe, and ſo kill themſelves with civill ſtrife for roomth, & danger the whole tree. Avoide them betime therefore, as a common-wealth doth boſome enemies.

Suckers. A Sucker is a long, prowd, and diſorderly Cyon, growing ſtreight up (for pride of ſap makes proud, long, and ſtreight growth) out of any lower parts of the tree, receiving a great part of the ſap, and bearing no fruit, till it have tyrannized over the whole tree. Theſe are like idle and great Drones amongſt Bees: and proud and idle members in a common-wealth.

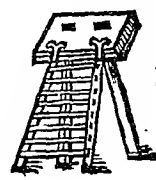
Remedy. The remedy of this is, as of water-boughes, unleſſe he be grown greater then all the reſt of the boughs, and then your Gardner (at your diſcretion) may leave him for his boale, and take away all, or the moſt of the reſt. If he be little, ſlip him, & ſet him, perhaps he wil take: my faireſt Apple-tree was ſuch a ſlip.

One principall top or bough, and remedy. One or two principall top boughs are as evill, in a manner, as Suckers, they riſe of the ſame cauſe, and receive the ſame remedy : yet theſe are more tollerable, becauſe theſe beare fruit, yea the beſt : but Suckers of long doe not beare.

Inſtruments for dreſſing. I know not how your tree ſhould be faulty, if you reforme all your vices timely, and orderly. As theſe rules ſerve for dreſſing young trees and ſets in the firſt ſetting : ſo may they well ſerve to helpe old trees, though not exactly to recover them.

The Inſtruments fitteſt for all theſe purpoſes, are moſt commonly : For the great trees an handſome long, light Ladder of Firpoles, a little, nimble, and ſtrong armed Saw, and ſharpe. For leſſe Trees, a little and ſharpe Hatchet, a broad mouthed Cheſell, ſtrong and

and ſharp, with an hand-beetle, your ſtrong and ſharp Cleever, with a knock, & (which is a moſt neceſſary inſtrument amongſt little trees) a great hafted and ſharp Knife or whittle. And as needfull is a Stool on the top of a Ladder of eight or moe rungs, with two back-feet, whereon you may ſafely and eaſefully ſtand to graffe, to dreſſe, and to gather fruit, thus formed. The feet may be faſt wedged in: but the Ladder muſt hang looſe with two bands of Iron. And thus much of dreſſing trees for fruit, formally to profit.



CHAP. 12.

Of Foyling.

THere is one thing yet very neceſſary for to make your Orchard both better, and more laſting: Yea, ſo neceſſary, that without it your Orchard cannot laſt, nor proſper long, which is neglected generally both in precepts and in practice, *viz.* manuring with Foile: whereby it hapneth that when trees (amongſt other evils) through want of fatneſſe to feed them, become moſſie, and in their growth are evill (or not) thriving, it is either attributed to ſome wrong cauſe, as age (when indeed they are but young) or evil ſtanding (ſtand they never ſo well) or ſuch like, or elſe the cauſe is altogether unknowne, and ſo not amended. Neceſſity of foiling.

Can there be deviſed any way by nature, or art, ſooner or ſoundlier to ſuck out, & take away the heart and ſtrength of earth, then by great trees? ſuch great bodies cannot be ſuſtained without great ſtore of ſap. What Trees great ſuckers.

living body have you greater then of trees? The great Sea-monſters (whereof one came a land at *Teeſmouth* in *Yorkeſhire*, hard by us, 18 yards in length, and neere as much in compaſſe) ſeem hideous, huge, ſtrange, and monſtrous, becauſe they be indeed great: but eſpecially, becauſe they are ſeldome ſeene: But a tree liking, come to his growth and age, twice that length, and of a bulke never ſo great, beſides his other parts, is not admired, becauſe he is ſo commonly ſeen. And I doubt not, but if he were well regarded from his kernell, by ſucceeding ages, to his full ſtrength, the moſt of them would double their meaſure. About fifty yeeres agoe, I heard by credible and conſtant report. That in *Brocham* Parke in *Weſtmoreland*, neer unto *Penrith*, there lay a blown Oake, whoſe trunk was ſo bigge, that two Horſemen being the one on the one ſide, and the other on the other ſide, they could not one ſee another: to which if you adde his armes, boughs, and rootes, and conſider of his bigneſſe, what would he have been, if preſerved to the vantage? Alſo I reade in the Hiſtory of the *Weſt-Indians*, out of *Peter-Martyr*, that ſixteene men taking hands one with another, were not able to fathome one of thoſe trees about. Now nature having given to ſuch a faculty by large and infinite roots, taws and tangles, to draw immediately his ſuſtenance from our common mother the Earth (which is like in this point to all other mothers that bear) hath alſo ordained that the tree over-loden with fruit, and wanting ſap to feed all ſhe hath brought forth, will wain all ſhe cannot feed, like a woman bringing forth mo children at once then ſhe hath teats. See you not how trees eſpecially, by kind being great, ſtanding ſo thicke and cloſe, that they cannot get plenty of ſap, pine away all the graſſe, weeds,

Great bodies.

weeds, leſſer ſhrubs and trees; yea, and themſelvs alſo for want of vigour of ſap? ſo that trees growing large, ſucking the ſoyl whereon they ſtand continually and amaine, and the foizon of the earth that feeds them decaying (for what is there that waſts cõtinualy, that ſhal not have end?) muſt either have ſupply of ſucken, or elſe leave thriving & growing. Some grounds wil bear corn while they be new, and no longer, becauſe their cruſt is ſhallow, and not very good, & lying they ſcind and waſh, and become barren. The ordinary Corne ſoils continue not fertile, with following and toyling, and the beſt requires ſupply, even for the little body of corn. How then can we think that any ground (how good ſoever can ſuſtain bodies of ſuch greatneſſe, and ſuch great feeding, without great plenty of Sap ariſing from good earth? this is one of the chief cauſes why ſo many of our Orchards in *England* are ſo evil thriving when they come to growth, and our fruit ſo bad. Men are loth to beſtow much ground, & deſire much fruit, and will neither ſet their trees in ſufficient compaſſe, nor yet feed them with manure. Therefore, of neceſſity Orchards muſt be foiled.

The fitteſt time is, when your trees are grown great and have near hand ſpread your Earth, wanting new Earth to ſuſtain them, which if they do, they will ſeek abroad for better earth, & ſhun that which is barren (if they find better) as cattel evil paſturing. For nature hath taught every creature to deſire and ſeeke his own good, and to avoid hurt. The beſt time of the year is at the Fal, that the Froſt may bite and make it tender, and the Rain waſh it into the roots. The Summer time is perilous if ye dig, becauſe the ſap ſtirs amain. The beſt kind of Soil is ſuch as is fat, hot, and

tender. Your *earth* must be lightly opened, that the Dung may go in, and wash away; and but shallow, lest you hurt the roots: and in the Spring closely and equally made plain again for fear of Suckers. I could wish, that after my *trees* have fully possessed the soil of mine Orchard, that every 7 years at least, the soil were bespread with Dung half a foot thick at least. Puddle water out of the dunghill powred on plentifully, will not only moisten but fatten; especially in *Iune* and *July*. If it be thick and fat, and applyed every year, your Orchard shall need none other foiling. Your ground may ly so low at the River side, that the floud standing some dayes and nights thereon, shall save you all this labour of foyling.

CHAP. 13.

Of Annoyances.

Chief help to make every thing good, is to avoid the evils thereof: you shall never attain to that good of your Orchard you look for, unless you have a Gardner that can discern the Disease of your trees, and other annoyances of your Orchard, and find out the causes thereof, and know and apply fit remedies for the same. *For be your ground such plants and trees as you would wish, if they ibe wasted with hurtfull things, what have you gained, but your labour for your travel? Is it with an Orchard and every Tree, as with mans body. The best part of physick for preservation of health, is to foresee and cure diseases.*

Two kind of evils in an Orchard.

All the Diseases of an Orchard are of two sorts, either internall, or externall. I call those inward hurts which breed on, and in particular trees.

1 Galles

1 Galles. 5 Bark bound.
2 Canker- 6 Bark pild.
3 Mosse. 7 Worme.
4 Weaknes in setting. 8 Deadly wounds.

Galls. Galles, Canker, Mosse, weakneſſe, though they be divers diſeaſes: yet (howſoever authors think otherwiſe) they riſe all out of the ſame cauſe.

Galles we have deſcribed with their cauſe and remedy, in the 11 Chapter under the name of fretters.

Canker. Canker is the conſumption of any parts of the tree; barke and wood, which alſo in the ſame place is deciphered under the title of water boughes.

Mosse. Moſſe is ſenſibly ſeen and known of all, the cauſe is pointed out in the ſame chapt. in the diſcourſe of timber-wood, and partly alſo the remedy, but for Moſſe adde this, that any time in ſummer (the ſpring is beſt) when the cauſe is removed, with an Harecloth immediatly after a ſhowr of rain, rub of your Moſſe, or with a piece of weed (if the moſſe abound) formed like a great knife.

Weakneſſe in ſetting. Weakneſs in the ſetting of your fruit ſhall you find there alſo in the ſame chapter, and his remedy. All theſe flow from the want of roomth in good ſoile, wrong planting, Chap. 7. and evill or no dreſſing.

Bark-bound. Bark bound as I think riſeth of the ſame cauſe, and the beſt, & preſent remedy (the cauſes being taken away) is with your ſharp knife in the ſpring, length way to lanch his bark througout one 3 or 4 ſides of his boul.

vvorme. The diſeaſe called the worm is thus diſcerned: The bark will be hoald in divers places like gall, the wood will die & dry, and you ſhal ſee eaſily the bark ſwel it is verily to be thought, that therein is bred ſome worm Ihave not yet thorowly ſought it out, becaſe I was never

troubled therewithall: but onely have ſeen ſuch trees in divers places. I think it a worm rather, becauſe I ſee this Diſeaſe in trees, bringing fruit of ſweet taſt, and the ſwelling ſhewes as much. The remedy (as I conjecture) is ſo ſoon as you perceive the wound; the next Spring cut it out Bark and all, and apply Cowes piſſe and vineger preſently, and ſo twice or thrice a week for a moneths ſpace: For I well perceive, if you ſuffer it any time it eats the tree or bough round and ſo kils. *Since I firſt wrote this Treatiſe, I have changed my mind concerning the diſeaſe called the worm, becauſe I read in the Hiſtory of the Weſt-Indians, that their trees are not troubled with the diſeaſe called the worm or canker, which ariſeth of a raw and evill concocted humour or ſap. Witneſſe* Pliny, *by reaſon the Country is more hot then ours; whereof I think the beſt remedy is (not diſallowing the former, conſidering that the worm may breed by ſuch an humour) warme ſtanding, ſound lopping, and good dreſſing.*

Bark pil'd you ſhall find with his remedy in the 11. Chapter.

Wounds. Deadly wounds are when a mans *Arboriſt* wanting skill, cut off armes, boughes, or branches an inch; or (as I ſee ſometimes) an handfull, or half a foot or more from the body: *theſe ſo cut, cannot cover in any time with ſap, and therefore they dye, and dying they periſh the heart, and ſo the tree becomes hollow, and with ſuch a deadly wound cannot live long.*

Remedy. The remedy is, if you find him before he be periſhed, cut him cloſe, as in the 11. Chapter: if he be hoal'd, cut him cloſe, fill his wound, tho never ſo deep, with morter well temper'd, & ſo cloſe at the top his wound with a Sear-cloth doubled and nayled on, that no ayre nor rain

rain approach his wound. If he be not very old and detaining, he will recover; and the hole being closed, his wound within shall not him for many years.

Hurts on your trees are chiefly Ants, Earwigs, and Caterpillars. Of Ants and Earwigs is said Chap 10. *Let there be swarm of Pismires neer your tree root, no not in your Orchard, turn them over in a frost, and powr in water, and you kill them.*

For *Caterpillars*, the vigilant Fruterer shall soon espy their lodging by their web, or the decay of leaves eaten round about them. And being seen, they are easily destroyed with your hand, or rather (if your tree may spare it take sprig and all: for the red peckled Butterfly doth ever put them, being her sparm, among the tender spraies for better feeding, especially in drought, and tread them under your feet. I like nothing of smoke among my trees. Unnaturall heats are nothing good for naturall trees. *This for diseases of particular trees.*

Externall hurts are either things naturall or artificiall. Naturall things externally hurting Orchards.

1 Beasts.
2 Goats.
3 Sheep.
4 Hare.
5 Cony.
6 Cattell.
7 Horse.

1 Deer.
2 Birds.
1 Bulfinch.
2 Thrush.
3 Blackbird.
4 Crow.
5 Pye.
&c.

The other things are.

1 Winds.
2 Cold.
3 Trees.
4 Weeds.
5 Wormes.

6 Mowles

6 Mowles.
7 Filth.
8 Poyſonfull ſmoke.

Externall wilfull evils are theſe.

1 Walls.
2 Trenches.
3 Other works noiſome, done in or near
4 Evill Neighbours. (your Orchard.
5 A careleſſe Maſter.
6 An undiſcreet, negligent, or no keeper.

See you here an whole Army of miſchiefs banded in troops againſt the moſt fruitfull trees the earth beares? aſſauling your good labours. Good things have moſt enemies.

Remedy. A skilfull Fructerer muſt put to his helping hand, and disband and put them to flight.

Deer, &c For the firſt rank of Beaſts, beſides your out ſtrong fence, you muſt have a fair and ſwift Grey-hound, a Stone-bow, Gun, and if need require, an Apple with an hook for a Deer, and an Hare-pipe for an Hare.

Birds, Your Cherries and other Berries when they be ripe, will draw all the Blackbirds, Thruſhes, and Maw Pies to your Orchard. The Bul-finch is a devourer of your fruit in the bud, I have had whole trees ſhai'd out with them in Winter time.

The beſt remedy here is a Stone-bow, a Piece, eſpecially if you have a Muſket, or Spar-hawk in Winter to make the Black-bird ſtoop into a buſh or hedge.

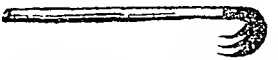
The Gardner muſt cleanſe his foyl of all other trees: but Fruit-trees, as aforeſaid, *chap.* 2. for which is is ordained, and I would eſpecially name Oakes, Elmes, Aſhes, and ſuch other great Wood, but that I doubt it ſhould be take as an admiſſiō of leſſer *trees*: for I admit

of

of nothing to grow in mine Orchard but fruit & flowers, If ſap can hardly be good to feed our fruit-trees, ſhould we alow of any other, eſpecially thoſe, that wil becom their Maſters, & wrong thē in their livelyhood. Winds.

And although we admit without the fence of Wallnuts in moſt plain places, Trees middle moſt, & aſhes or Oakes, or Elmis utmoſt, ſet in comely rows equally diſtant with fair Allies twixt row and row to avoid the boiſterous blaſts of winds, and within them alſo others for bees: yet we admit none of theſe into your Orchard-plat: other remedy then this have we none Froſts. againſt the nipping froſts.

Weeds in a fertile ſoile, becauſe the generall courſe is ſo) till your trees grow great, will be noiſome, and deform your allies, walks, beds, & ſquares, your under Gardens muſt labour to keep all cleanly and hanſome from them, and all other filth, with a Spade, weeding knives, rake with Iron teeth a skrapple of Iron thus formed. Weeds.



For Netles and ground Ivy after a ſhowr.

When weeds, ſtraw, ſticks, and all other ſcrapings, are gathered together, burn them not, but bury them under your cruſt in any place of your Orchard, and they wil dye and fatten your ground. Barke pilp.

Wormes and Moales open the earth, and let in ayre to the roots of your trees, and deforme your ſquares and walkes and feeding in the earth, being in number infinite, draw one barrenneſſe. Wormes Moales.

Wormes may eaſily be deſtroyed. Any Summer evening when it is darke, after a ſhowr with a candle you may fil buſhels, but you muſt tred nimbly & where you Remedy.

you cannot come to catch them so; sift the earth with coal ashes an inch or two thickness, and that is a plague to them so is sharp gravell.

Moals will anger you, if your Gardner or some skilfull Moal-catcher ease you not; especially having made their fortereſſes among the roots of your trees: you must watch her well with a Moal spare, at morn, noon, and night, when you see her utmost hill, cast a Trench betwixt her and her home (for she hath a principall mansion to dwell & breed in about *April*, which you may discern by a principal hill, wherein you may catch her, if you trench it round and sure, and watch well for whereſoever you can discern a single passage (for such she hath) there trench, and watch, and have her.

Wilfull annoyances must be prevented and avoided by the love of the Master and Fruterer, which they bear to their Orchard.

Justice and liberality will put away evill neighbours or evill neighbour-hood. And then (if God bleſſe and give success to your labours) I see not what hurt your Orchard can sustain.

CHAP. 14

Of the age of Trees.

IT is to be considered: All this Treatise of Trees tends to this end, that men may love and plant Orchards, whereunto there cannot be a better inducement then that they know (or at least be perswaded) that all that benefit which they shall reape thereby, whether of pleasure or profit, shall not be for a day, or a moneth, or one, or many, but many hundreth yeares. Of good things the greatest, and most durable is alwayes the best. If therefore out of reason

reaſon grounded upon experience, it be made (I think) manifeſt, but I am ſure probable, that a fruit-tree in ſuch a ſoile and ſite, as is deſcribed, ſo planted & trimmed and kept, as is afore appointed, and duely ſoiled, ſhall dure a 1000 yeeres, why ſhould we not take pains and be at two or three yeeres charges (for under ſeven yeeres will an Orchard be perfected for the firſt planting, and in that time be brought to fruit) to reap ſuch a commodity and ſo long laſting? The age of trees.

Let no man think this to be ſtrange, but peruſe and conſider the reaſon. I have Apple-trees ſtanding in my little orchard, which I have known theſe fourty yeers, whoſe age before my time I cannot learne, it is beyond memory, tho I have enquired of divers aged men of 80 yeers and upwards : theſe trees although come into my poſſeſſion very evill ordered, miſhapen, and one of them wounded to his heart, & that deadly (for I know it will be his death) with a wound, wherein I might have put my foot into the heart of his bulke (now it is leſſe) notwithſtanding, with that ſmal regard they have had ſince, they ſo like, that I aſſure my ſelfe they are not come to their growth by more then 2. parts of 3. which I diſcern not only by their own growth, but alſo by comparing them with the bulk of other trees. And I find them ſhort (at leaſt) by ſo many parts in bigneſſe, although I know thoſe other fruit-trees to have been much hindred in their ſtature by evill guiding. Herehence I gather thus. Gathered by reaſon out of experience.

If my trees be a hundred yeers old, and yet want two hundred of their growth before they leave encreaſing, which make three hundred, then we muſt needs reſolve, that this three hundred yeers are but the third part of a trees life, becauſe (as all things living beſides) Parts of a trees age.

ſo

to trees muſt have allowed them for their increaſe one third, another third for their ſtand, and a third part of time alſo for their decay. All which time of a Tree amounts to nine hundred yeeres, three hundred for increaſe, three hundred for his ſtand, wherof we have the tearme ſtature, & three hundred for his decay, and yet I think (for we muſt conjecture by comparing, becauſe no one man liveth to ſee the ful age of trees) I am within the compaſſe of his age, ſuppoſing alwaies the foreſaid meanes of preſerving his life. Conſider the age of other living creatures. The Horſe and moiled Oxe wrought to an untimely death, yet double the time of their increaſe. A dog likewiſe increaſeth three, ſtands three at leaſt, and in as many (or rather moe) decayes.

Mans age.

Every living thing beſtowes the leaſt part of his age in his growth, & ſo muſt it needs be with trees. A man comes not to his full growth & ſtrength (by common eſtimation) before thirty yeeres, and ſome ſlender and cleane bodies, not till fourty, ſo long alſo ſtandes his ſtrength, & ſo long alſo muſt he have allowed by courſe of nature to decay. Ever ſuppoſing that he be well kept with neceſſaries, and from & withouut ſtraines, bruiſes and all other dominiering diſeaſes. I will not ſay upon true report, that Phiſick holds it poſſible, that a cleane body kept by theſe 3. Doctors, *Doctor Dyet*, *Doctor Quiet*, and *Doctor Merriman*, may live neer a hundred yeers. Neither will I here urge the long yeers of *Methuſhalah*, and thoſe men of that time, becauſe you will ſay, Mans daies are ſhortned ſince the flood. But what hath ſhortned them? God for mans ſins: but by meanes, as want of knowledge, evill government, riot, gluttony, drunkenneſſe, & (to be ſhort) the encreaſe of the

the curſe, our ſins increaſing in an iron and wicked age.

Now if a man, whoſe body is nothing (in a manner) but tender rottenneſſe, whoſe courſe of life cannot by any meanes, by counſell, reſtraint of Lawes, or puniſhment, nor hope of praiſe, profit, or eternall glory, be kept within any bounds, who is degenerate cleane from his naturall feeding, to effeminate niceneſſe, and cloying his body with exceſſe of meate, drinke, ſleepe &c. and to whom nothing is ſo pleaſant and ſo much deſired as the cauſes of his owne death, as idleneſſe, luſt, &c. may live to that age: I ſee not but a tree of a ſolid ſubſtance, not damnified by heat or cold, capable of, and ſubject to any kinde of ordering or dreſſing that a man ſhall apply unto him, feeding naturally, as from the beginning disburdened of all ſuperfluities, eaſed of, and of his owne accord avoiding the cauſes that may annoy him, ſhould double the life of a man, more then twice told; and yet naturall philoſophy, and the univerſall conſent of all Hiſtories tell us, that many other living creatures farre exceed man in the length of yeeres: As the Hart and the Raven. Thus reporteth that famous *Roterodam* out of *Heſiodus*, and many other Hiſtoriographers. The teſtimony of *Cicero* in his booke *De Senectute*, is weighty to this purpoſe: that we muſt *in poſteras ætates ſerere arbores*, which can have none other ſenſe: but that our fruit-trees whereof he ſpeakes, can indure for many ages.

What elſe are trees in compariſon with the earth: but as haires to the body of a man? And it is certaine, without poiſoning, evill & diſtemperate dyet, and uſage, or other ſuch forcible cauſe, the hairs dure with the body. That they be called excrements, it is by reaſon of their ſuperfluous growth: for cut them as often as you liſt,

and.

and they will ſtil come to their naturall length) Not in reſpect of their ſubſtance, and nature. Haires endure long, and are an ornament and uſe alſo to the body, as trees to the earth.

So that I reſolve upon good reaſon, that fruit-trees well ordered, may live and like a thouſand yeeres, and beare fruit, and the longer, the more, the greater, and the better, becauſe his vigour is proud and ſtronger, when his yeers are many: You ſhall ſee old trees put their buds and bloſſoms both ſooner and more plentifully then yong trees by much. And I ſenſibly perceive my young trees to inlarge their fruit as they grow greater, both for number and greatneſſe. Young Heifers bring not forth Calves ſo faire, neither are they ſo plentifull to milke, as when they become to be old Kine. No good Houſ-wife will breed of a young but of an old bird-mother: It is ſo in all things naturally, therefore in trees.

The age of timber trees.

And if fruit-trees laſt to this age, how many ages is it to be ſuppoſed, ſtrong & huge timber-trees wil laſt? whoſe huge bodies require the yeers of divers *Methuſhalaes*, before they end their daies, whoſe ſap is ſtrong and bitter, whoſe barke is hard and thicke, and their ſubſtance ſolid and ſtiffe: all which are defences of health and long life. Their ſtrength withſtands all forcible winds, their ſap of that quality is not ſubject to wormes and tainting. Their barke receives ſeldome or never by caſualty any wound. And not only ſo, but he is free from removals, which are the death of millions of trees, where as the fruit-tree in compariſon is little and often blowne down, his ſap ſweet, eaſily, and ſoon tainted, his barke tender, and ſoon wounded, and himſelf uſed by man, as man uſeth himſelfe, that is either unſkil-

unskilfully, or careleſſely.

It is good for ſome purpoſes to regard the age of your fruit trees, which you may eaſily know, till they come to accompliſh twenty yeares, by his knots: Reckon from his root up an arme, and ſo to his top-twig, and every yeares growth is diſtinguiſhed from other by a knot, except lopping or removing doe hinder. Age of trees diſcerned.

CHAP. 15.

Of Gathering and keeping Fruit.

ALthough it bee an eaſie matter, when God ſhall ſend it, to gather and keepe fruit, yet are they certaine things, worthy your regard. You muſt gather your fruit when it is ripe, and not before, elſe will it wither and be tough and ſower. All fruit generally are ripe, when they begin to fall. For trees doe as all other bearers doe, when their young ones are ripe, they will waine them. The Dove her Pigeons, the Coney her Rabbets, and women their children. Some fruit tree ſometimes getting a taint in the ſetting with a froſt or evill winde, will caſt his fruit untimely, but not before he leave giving them ſap, or they leave growing. Except from this foreſaid rule, Cherries, Damſons, and Bullies. The Cherrie is ripe when hee is ſwelled wholy red, and ſweet. Damſons and Bullies not before the firſt froſt. Generall Rule. Cherries, &c.

Apples are knowne to be ripe, partly by their colour, growing towards a yellow, except the Leather-coate and ſome Peares and Greening. Apples.

Timely Summer fruit will be ready, ſome at Midſomer, moſt at Lammus for preſent uſe; but generally no keeping fruit before *Michael-tide*. Hard winter fruit and Wardens longer. When.

Gather at the full of the Moone for keeping, gather dry for feare of rotting.

Dry ſtalkes.

Gather the ſtalkes withall: for a little wound in fruit, is deadly: but not the ſtumpe, that muſt beare the next fruit, nor leaves, for moyſture putrifies.

Severally.

Gather every kinde ſeverally by it ſelfe, for all will not keepe alike, and it is hard to diſcerne them, when they are mingled.

Overladen trees.

If your trees be over-laden (as they will be, being ordered, as is before taught you) I like better of pulling ſome off (though they be not ripe) neere the top end of the bough, then of propping, by much, the reſt ſhall be better fed. Propping puts the bough in danger, and frets it at leaſt.

Inſtruments.

Inſtruments: A long ladder of light firre: a ſtoole-ladder as in the 11. Chapter. A gathering apron like a poake before you, made of purpoſe, or a Wallet hung on a bough, or a basket with a five bottome, or skinne bottome, with Lathes or ſplinters under, hung in a rope to pul up and downe: bruiſe none, every bruiſe is to fruit death: if you doe, uſe them preſently. An hooke to pul boughs to you is neceſſary, breake no boughs.

Bruiſes.

Keeping.

For keeping, lay them in a dry Loft, the longeſt keeping Apples firſt and furtheſt on dry ſtraw, on heapes ten or fourteene daies, thicke, that they may ſweat. Then dry them with a ſoft and cleane cloth, and lay them thin abroad. Long keeping fruit would be turned once in a moneth ſoftly: but not in nor immediately after froſt. In a loft cover well with ſtraw, but rather with chaffe or branne: For froſt doth cauſe tender rottenneſſe.

CHAP.

Chap. 16.

Of Profits.

NOw pauſe with your ſelfe, and view the end of all your labours in an Orchard: unſpeakable pleaſure, and infinite commodity. The pleaſure of an Orchard I referre to the laſt Chapter for the concluſion: and in this chapter, a word or two of the profit, which thorowly to declare is paſt my skill: and I count it as if a man ſhould attempt to adde light to the Sun with a Candle, or number the Starres. No man that hath but a meane Orchard or judgement but knowes, that the commodity of an Orchard is great: Neither would I ſpeake of this, being a thing ſo manifeſt to all; but that I ſee, that through the careleſſe lazineſſe of men, it is a thing generally neglected. But let them know, that they loſe hereby the chiefeſt good which belongs to houſe-keeping.

Compare the commodity that commeth of halfe an acre of ground, ſet with fruit-trees and herbs, ſo as is preſcribed, and an whole acre (ſay it be two) with Corne, or the beſt commodity you can wiſh, and the Orchard ſhall exceed by divers degrees.

In *France* and ſome other Countries, and in *England*, they make great uſe of Cyder and Perry, thus made: dreſſe every Apple, the ſtalke, upper end, and all galles away, ſtampe them, and ſtraine them, and within 24. houres tun them up into clean, ſweet, & ſound veſſels, for feare of evill aire, which they will readily take: and if you hang a poakefull of Cloues, Mace, Nutmegs, Cinamon, Ginger, and pils of Lemmons in the midſt of the veſſell, it will make it as wholeſome and pleaſant as wine. The like uſage doth Perry require. Cyder and Perry.

Theſe drinks are very wholſome, they coole, purge, and prevent hot Agues. But I leave this ſkill to Phyſitians.

Fruit. The benefit of your Fruit, Roots & Herbs, though it were but to eate and ſell, is much.

Waters. Waters diſtilled of Roſes, Woodbind, Angelica, are both profitable and wondrous pleaſant, and comfortable.

Conſerve. Saffron and Licoras will yeeld you much Conſerves and Preſerves, are ornaments to your Feaſts, health in your ſickneſſe, and a gocd helpe to your friend, and to your purſe.

He that will not be moved with ſuch unſpeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. 17.

Ornaments.

METhinks hitherto we have but a bare Orchard for fruit, and but halfe good, ſo long as it wants thoſe comely Ornaments, that ſhould give beauty to all our labours, and make much for the honeſt delight of the owner and his friends.

Delight the chiefe end of Orchards. For it is not to be doubted, but as God hath given man things profitable, ſo hath hee allowed him honeſt comfort, delight, and recreation in all the works of his hands. Nay, all his labours under the Sunne without this are troubles, and vexations of mind: For what is greedy gaine, without delight, but moyling, and turmoyling in ſlavery? But comfortable delight, with content, is the good of every thing, and the patterne of heaven. A morſell of bread with comfort, is better by much then a fat Oxe with unquietneſſe. And who

who can deny but the principall end of an Orchard, is the honeſt delight of one wearied with the works of his lawfull calling? The very works of and in an Orchard and Garden, are better then the eaſe and reſt of and from other labours. When God had made man after his own Image, in a perfect ſtate, and would have him to repreſent himſelf in authority, tranquility, and pleaſure upon the earth, he placed him in *Paradiſe*. What was *Paradiſe*? but a Garden and Orchard of trees and herbs, full of pleaſure? and nothing there but delights. The gods of the earth reſembling the great God of heaven in authority, Majeſty and abundance of all things, wherein is their moſt delight? and whither do they withdraw themſelves from the troubleſome affairs of their eſtate, being tired with the hearing and judging of litigious Controverſies? choked (as it were) with the cloſe ayres of their ſumptuous buildings, their ſtomacks cloyed with variety of Banquets, their ears filled and overburthened with tedidious diſcourſings? whither? but into their Orchards? made and prepared, dreſſed and deſtinated for that purpoſe, to renew and refreſh their ſences, and to call home their over wearied-ſpirits. Nay, it is (no doubt) a comfort to them, to ſet open their Cazements into a moſt delicate Garden and Orchard, whereby they may not onely ſee that, wherein they are ſo much delighted, but alſo to give freſh, ſweet, and pleaſant aire to their Galleries and Chambers.

An Orchard delightſome.

An Orchard in Paradiſe.

Cauſes of wearineſſe

Orchard is the remedy.

And look what theſe men do by reaſon of their greatnes and ability, provoked with delight, the ſame doubtleſſe would every of us do, if power were anſwerable to our deſires, whereby we ſhew manifeſtly, that of all other delights on earth, they that are taken by Orchards,

All delight in Orchards.

are moſt excellent and moſt agreeing with nature.

This delights all the ſenſes.

For whereas every other pleaſure commonly fills ſome one of our ſenſes, and that onely, with delight, this makes all our ſenſes ſwim in pleaſure, and that with infinite variety, joyned with no leſſe commodity.

Delighteth old age.

That famous *Philoſopher*, and matchleſſe Oratour, *M.T.C.* preſcribeth nothing more fit, to take away the tediouſneſſe and heavy load of three or foureſcore years, then the pleaſure of an Orchard.

Cauſes of delight in any Orchard.

What can your eye deſire to ſee, your ears to heare, your mouth to taſt, or your noſe to ſmell, that is not to be had in an Orchard, with abundance of variety? What more delightſome then an infinite variety of ſweet ſmelling flowres? decking with ſundry colours, the green mantle of the Earth, the univerſall mother of us all, ſo by them beſpotted, ſo dyed, that all the World cannot ſample them, and wherein it is more fit to admire the Dyer, then imitate his workmanſhip, colouring not onely the earth, but decking the aire, and ſweetning every breath and ſpirit.

Flowres.

The Roſe red, dammask, velvet, and double double province Roſe, the ſweet muſk Roſe double and ſingle, the double and ſingle white Roſe. The faire and ſweet-ſenting Woodbine, double and ſingle, and double double. Purple Cowſlips, and double Cowſlips, and double double Cowſlips, Primroſe double and ſingle. The Violet nothing behind the beſt, for ſmelling ſweetly. A thouſand more will provoke your content.

Borders and ſquares.

And all theſe by the skill of your Gardner, ſo comely and orderly placed in your Borders and Squares, and ſo intermingled, that none looking thereon cannot but wonder, to ſee what nature corrected by Art can doe.

When

When you behold in divers corners of your Orchard *Mounts* of ſtone or wood, curiouſly wrought within and without, or of earth covered with fruit-trees: Kentiſh Cherries, damſons, Plummes, &c. with ſtaires of precious workmanſhip. And in ſome corner (or moe) a true diall or clock, and ſome Anticke-works, and eſpecially ſilver-ſounding Muſick, mixt Inſtruments and voyces, gracing all the reſt: How will you be wrapt with delight? Mounts. whence you may ſhoot a Buck. Diall. Mnſigne.

Large Walks, broad and long, cloſe and open, like the *Tempe* groves in *Theſſaly*, raiſed with gravell and ſand, having ſeats and banks of Cammomile, all this delights the mind, and brings health to the body. walkes. Seats.

View now with delight the works of your owne hands, your fruit-trees of all ſorts, loaden with ſweet bloſſomes, and fruit of all taſts, operations, and colours: your trees ſtanding in comely order which way ſoever you look. Order of trees.

Your borders on every ſide hanging and drooping with Feberries, Raſpberries, Barberries, Currents, and the roots of your trees powdred with Strawberries, red, white and green, what a pleaſure is this? Your Gardner can frame your leſſer wood to the ſhape of men armed in the field, ready to give battell: or ſwift running Greyhounds: or of well ſented and true running Hounds to chaſe the Deere, or hunt the Hare. This kind of hunting ſhall not waſt your corne, nor much your coyne. ſhape of men and beaſts.

Mazes well framed a mans height, may perhaps make your friend wander in gathering of berries til he cannot recover himſelf without your help. Mazes.

To have occaſion to exerciſe within your Orchard: it ſhall be a pleaſure to have a Bowling Alley, or rather Bowling-Alley

(which is more manly, and more healthful) a paire of
Buts. Buts to ſtretch your arms.

Herbes. Roſemary and ſweete Eglantine are ſeemely ornaments about a Doore or Window, and ſo is Woodbinde.

Looke Chapter 5. and you ſhall ſee the form of
Conduit. a Conduite. If there were two or more, it were not amiſſe.

And in mine opinion I could highly commend your Orchard, if either through it, or hard by it, there ſhould
River. runne a pleaſant River with ſilver ſtreams: you might
Moats. ſit in your Mount, and angle a peckled Trout or fleighty Eele, or ſome other dainty Fiſh. Or moats, whereon you might row with a Boate, and fiſh with Nettes.

Bees. Store of Bees in a dry and warm Bee-houſe, comely made of Fir boards, to ſing, and ſit, and feed upon your flowers and ſprouts, make a pleaſant noyſe and ſight. For cleanly and innocent Bees, of all other things, love and become, and thrive in an Orchard. If they (thrive as they muſt needs) if your Gardiner be skilfull, and love them: for they love their friends, and hate none but their enemies) they will beſides the pleaſure, yield great profit, to pay him his wages. Yea, the increaſe of twenty Stocks or Stools, with other fees, will keep your Orchard.

You need not doubt their ſtings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongſt them, you need not doubte them: for but near their ſtore, and in their own defence, they will not fight, and in that caſe onely (and who can blame them?) they are manly, and fight deſperately. Some (as that honourable Lady

at

at *Hacknes*, Whoſe name doth much grace mine Orchard) uſe to make ſeats for them in the ſtone wall of their Orchard, or Garden, which is good, but wood is better.

A Vine overſhadowing a ſeat, is very comely, though her Grapes with us ripe ſlowly. Vine.

One chief grace that adornes an Orchard, I cannot let ſlip: a brood of Nightingales, who with ſeverall notes and tunes, with a ſtrong delightſome voyce out of a weak body, will bear you company night and day. She loves (and lives in) hots of woods in her heart. She will help you to cleanſe your trees of Caterpillers and all noyſome wormes and flies. The gentle Robin-red-breſt will help her, and in winter in the coldeſt ſtorms will keep a part. Neither will the ſilly Wren be behind in Summer, with her diſtinct whiſtle, (like a ſweet Recorder) to chear your ſpirits. Birds. Nightingale. Robin red-breſt. Wren.

The Black-bird and Threſtle (for I take it the Thruſh ſings not, but devours) ſing loudly in a *May* morning, and delights the eare much (and you need not want their company, if you have ripe Cherries or Berries, and would as gladly as the reſt do your pleaſure: but I had) rather want their company than my fruit. Black bird. Thruſh.

What ſhall I ſay? A thouſand of Pleaſant delights are attended in an Orchard: and ſooner ſhall I bee weary, then I can reckon the leaſt part of that pleaſure, which one that hath and loves an Orchard may find therein.

What is there of all theſe few that I have reckoned, which doth not pleaſe the eye, the eare, the ſmell, and taſte? And by theſe ſenſes as Organs, Pipes, and windows, theſe delights are carried to refreſh the gentle, generous, and noble mind.

To

Your own labour.

To conclude, what joy may you have, that you living to ſuch an age, ſhall ſee the bleſſings of God on your labours while you live, and leave behind you to heirs, or ſucceſſors (for God will make heires) ſuch a work, that many ages after your death, ſhall record your love to their Country? And the rather, when you conſider (*Chap.* 14.) to what length of time your worke is like to laſt.

FINIS.

THE COVNTRY HOVSE-WIVES GARDEN,

Containing Rules for herbs, and Seeds, of common uſe, with their times and ſeaſons when to ſet and ſow them.

Together,

With the Husbandry of Bees, publiſhed with ſecrets very neceſſary for every *Houſe-wife*: as alſo divers new Knots for Gardens.

The Contents ſee at large in the laſt Page.

Geneſ. 2. 29.

I have given unto you every Herb, and every tree, that ſhall be to you for meate.

LONDON
Printed by *William Wilſon*, for *John Harriſon*, and are to be ſold at his Shop in Pauls-Church-yard. 1648.

THE COVNTRY HOVSWIFES GARDEN.

CHAP. I.

The Soyle.

THe ſoyle of an Orchard and Garden, differ onely in theſe three points: Firſt, the Gardens ſoile would bee ſomewhat dryer, becauſe herbs being more tender then trees, can neither abide moyſture nor drought, in ſuch exceſſive meaſure, as trees; and therefore having a drier ſoyle, the remedy is eaſie againſt drought, if need be: water ſoundly, which may bee done with ſmall labour, the compaſſe of a Garden being nothing ſo great, as of an Orchard, and this is the cauſe (if they know it) that Gardners raiſe their ſquares: but if moyſture trouble you, I ſee no remedy without a generall danger, except in Hops, which delight much in a low and ſappy earth. Dry. Hops.

Secondly, the ſoyle of a Garden would be plaine and levell,

levell, at leaſt every ſquare (for we purpoſe the ſquare
Plane. to be the fitteſt form) the reaſon: the earth of a garden wanting ſuch helps, as ſhould ſtay the water, which an orchard hath, and the rootes of herbes being ſhort, and not able to fetch their liquor from the bottome, are more annoyed by drought, and the ſoyle being mellow and looſe, is ſoon either waſht away, or ſends out his heart by too much drenching and waſhing.

Thirdly, if a garden ſoile be not cleare of weedes, and namely of graſſe, the herbes ſhall never thrive: for how ſhould good hearbs proſper, when evil weeds wax ſo faſt: conſidering good herbes are tender in reſpect of evil weeds: theſe being ſtrengthened by nature, and the other by art? Gardens have ſmall place in compariſon, and therefore may more eaſily be fallowed, at the leaſt one halfe yeere before, and the better dreſſed after it is framed. And you ſhall finde that clean keeping doth not only avoid danger of gathering weedes, but alſo is a ſpeciall ornament, and leaves more plentifull ſap for your tender herbes.

CHAP. 2.

Of the Sites.

I Cannot ſee in any ſort, how the ſite of the one ſhould not be good, and fit for the other: The ends of both being one, good, wholeſome, and much fruit joyned with delight, unles trees be more able to abide the nipping froſtes than tender herbes: but I am ſure, the flowers of trees are as ſoone periſhed with cold, as any herbe except Pumpions, and Melons.

CHAP

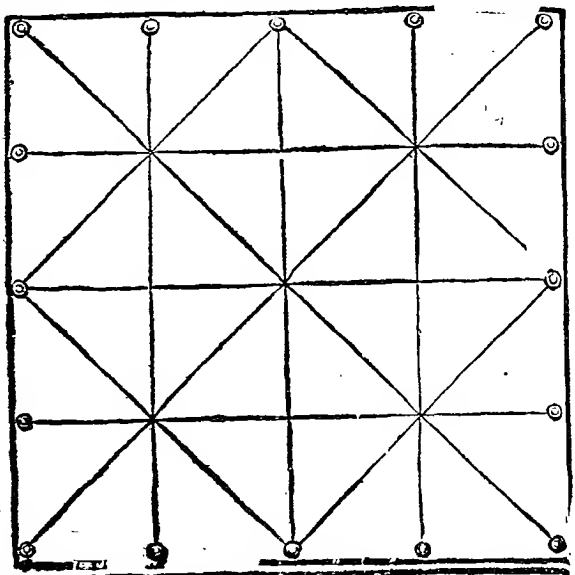
CHAP. 3.

Of the Forme.

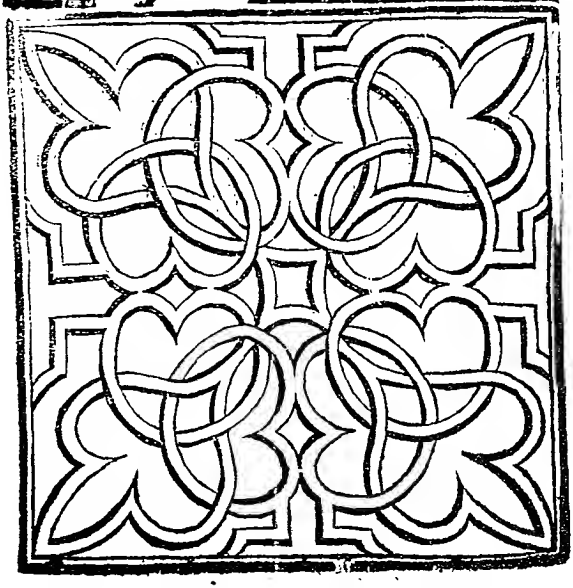
LEt that which is ſaid in the Orchards forme, ſuffice for a garden in generall: but for ſpeciall formes in ſquares, they are as many, as there are devices in Gardners brains. Neither is the wit and art of a skilfull Gardner in this point not to be commended, that can work more variety for breeding of more delightſome choice, and of all thoſe things, where the owner is able and deſirous to be ſatisfied. The number of formes, Mazes and Knots is ſo great, and men are ſo diverſly delighted, that I leave every Houſe-wife to her ſelfe, eſpecially ſeeing to ſet downe many, had been but to fill much paper; yet leſt I deprive her of all delight and direction, let her view theſe few, choice, new formes, and note theſe generally, that all plots are ſquare, and all are bordered about with Privit, Raſins, Fea-berries, Roſes, Thorne, Roſemary, Bee-flowers, Iſop, Sage or ſuch like.

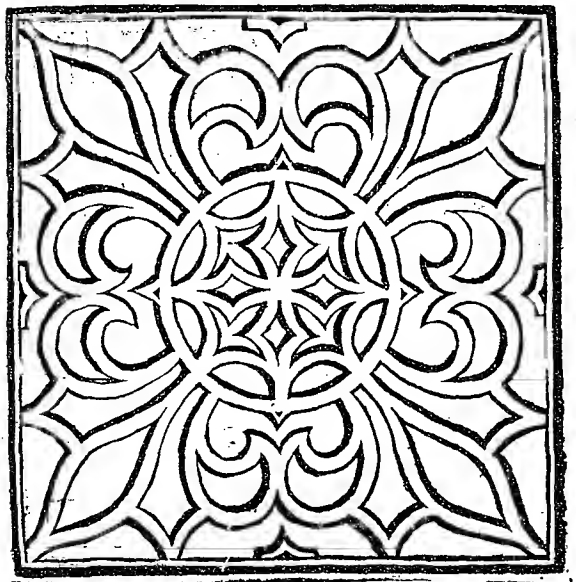
CHAP.

The ground plot for Knots.

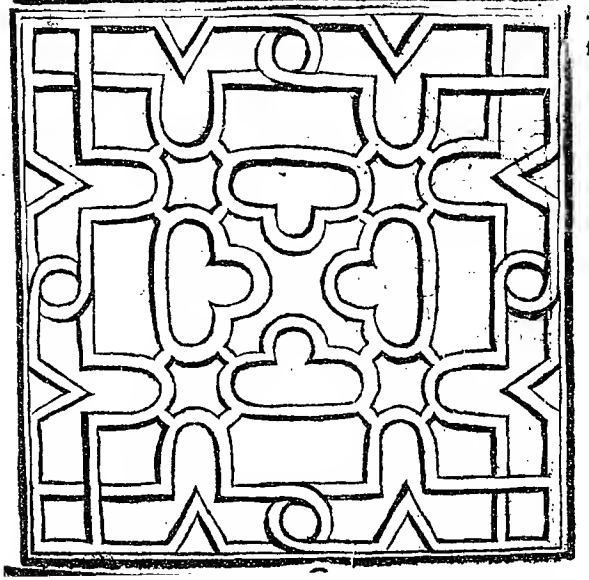


Cinkfoile.



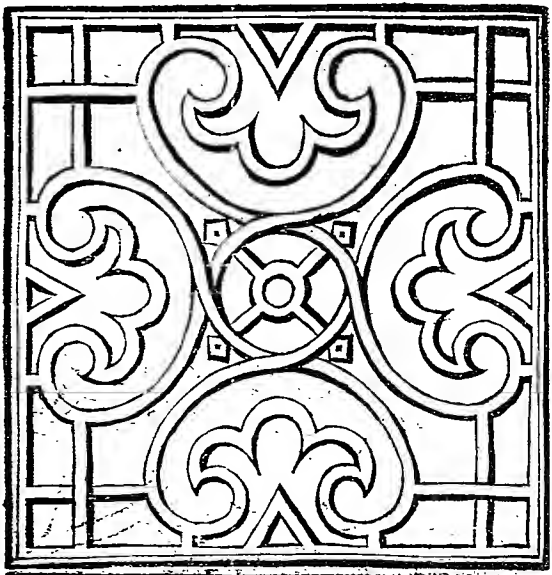


Flowen-deluce.

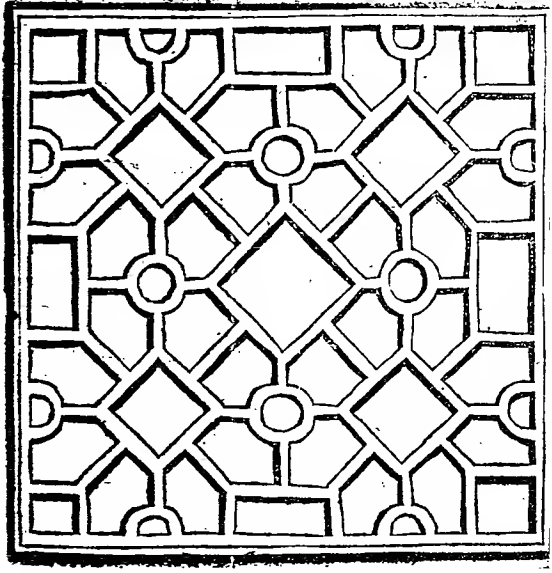


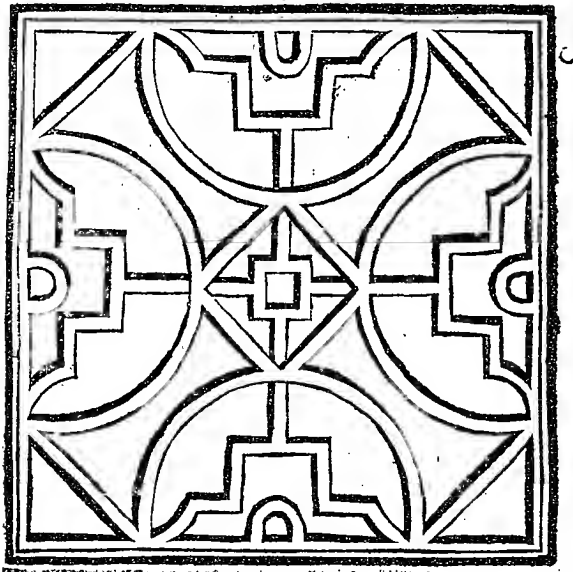
The Tre-foyle.

The Fret.

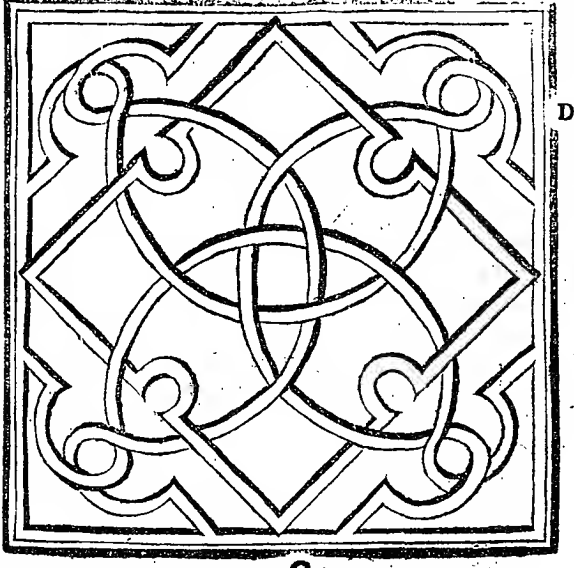


Lozenges.



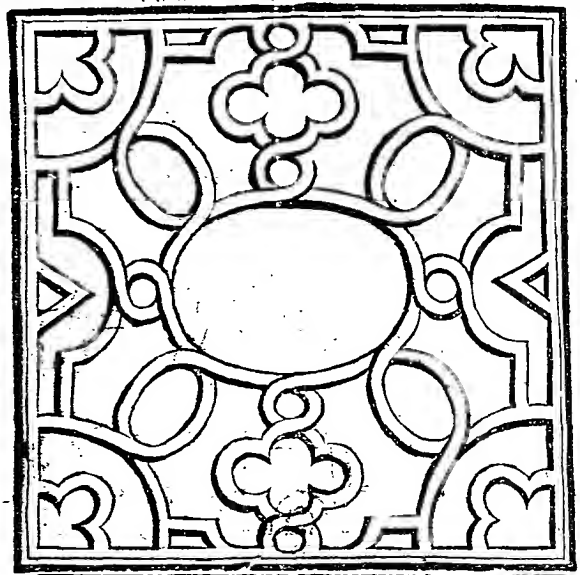


Crosse bow.

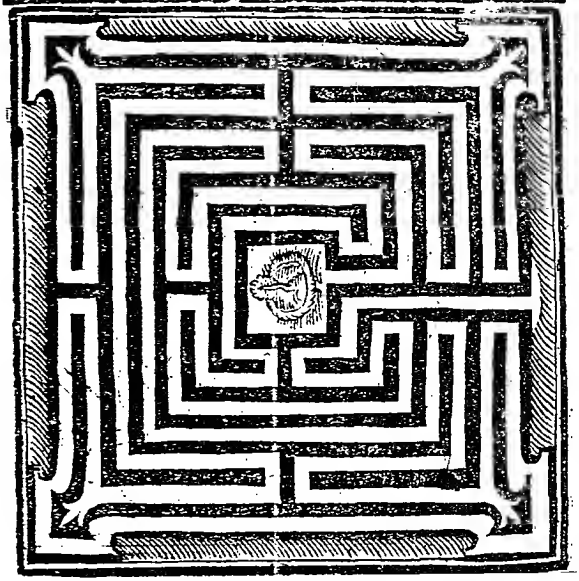


Diamond.

Ovall.



Maze.



CHAP. IIII.

Of the Quantity.

A Garden requireth not ſo large a ſcope of ground as an Orchard, both in regard of the much weeding, dreſſing and removing, and alſo the pains in a Garden, is not ſo well repayed home, as in an Orchard. It is to be granted, that the Kitchin-garden doth yeeld rich gains, by Berries, Roots, Cabbages, *&c.* yet theſe are no way comparable to the fruits of a rich Orchard: But notwithſtanding I am of opinion, that it were better for *England*, that we had more Orchards and Gardens, and more large. And therefore we leave the quantity to every mans ability and will.

CHAP. V.

Of Fence.

SEeing we allow Gardens in Orchard-plots, and the benefit of a Garden is much, they both require a ſtrong and ſhrowding fence. Therefore leaving this, let us come to the Herbs themſelves, which muſt be the fruit of all theſe labours.

CHAP. 6.

Of two Gardens.

HErbes are of two ſorts, and therefore it is meete (they requiring divers manners of Husbandry) that we have two Gardens: A garden for flowers, and a Kitchen garden: or a Summer garden: not that we meane ſo perfect a diſtinction, that the Garden for flowers ſhould or can be without herbes good for the Kitchen, or the Kitchen garden ſhould want flowres, nor on the contrary: but for the moſt part they would be ſevered: firſt, becauſe your Garden flowers ſhall ſuffer ſome diſgrace, if among them you intermingle Onions, Parſnips, &c. Secondly, your Garden that is durable, muſt be of one forme: but that, which is for your Kitchens uſe, muſt yeeld daily rootes, or other herbes, and ſuffer deformity. Thirdly, the herbs of both will not be both alike ready, at one time, either for gathering, or removing. Firſt therefore

Of the Summer Garden.

THeſe herbs and flowers are comely and durable for ſquares and knots, and all to be ſet at *Michaeltide*, or ſomewhat before, that they may be ſetled in, and taken with the ground, before winter, though they may be ſet, eſpecially ſowne in the ſpring.

Roſes of all ſorts (ſpoken of in the Orchard) muſt

be

be ſet. Some uſe to ſet ſlips and twine them, which ſometimes, but ſeldome, thrive all.

Roſemary, Lavender, Bee-flowers, Iſop, Sage, Time, Cowſlips, Pyony, Daſies, Clove-Gilliflowers, Pinkes, Sothernwood, Lillies, of all which hereafter.

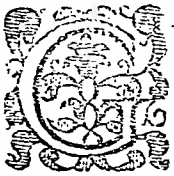
Of the Kitchen Garden.

THough your Garden for flowers doth in a ſort peculiarly challenge to it ſelfe a profit, and exquiſite forme to the eyes, yet you may not altogether neglect this, where your herbes for the pot do growe. And therefore, ſome here make comely borders with the hearbes aforelaid. The rather becauſe abundance of Roſes and Lavender yeeld much profit, and comfort to the ſences: Roſe-water and Lavender, the one cordiall (as alſo the Violets, Burrage, and Buglas) the other reviving the ſpirits by the ſence of ſmelling: both moſt durable for ſmell, both in flowers and water: you need not here raiſe your beds, as in the other garden, becauſe Summer towards, will not let too much wet annoy you.

And theſe hearbes require more moyſture: yet muſt you have your beds divided, that you may goe betwixt to weede, and ſomewhat forme would be expected: To which it availeth, that you place your herbes of biggeſt growth, by walles, or in borders, as Fennell, &c. and the loweſt in the middeſt, as Saffron, Strawberries, Onions, &c.

CHAP. VII.

Division of Herbs.



Arden-herbs are innumerable, yet these are common, and sufficient for our Countrey-housewifes.

Herbs of greatest growth.

Fennel, Angelica, Tansie, Hollihock, Lovage, Elicampane, French Mallows, Lilies, French Poppie, Endive, Succory, and Clary.

Herbs of middle growth.

Burrage, Buglas, Parsley, Sweet Sicilly, Flower-de-luce, Stock-gilliflowers, Wall-flowers, Anniseeds, Coriander, Feather-fewel, Marigolds, Oculus Christi, Langdibeef, Alexanders, Carduus Benedictus.

Herbs of smallest growth.

Pansie, or Harts-ease, Coast-Margeram, Savery, Strawberries, Saffron, Lycoras, Daffadowndillies, Leeks, Chives, Chibbals, Skerots, Onions, Batchelors buttons, Dasies, Peniroyal.

Hitherto I have onely reckoned up, and put in this rank, some Herbs: their Husbandry follows, each in an Alphabetical order, the better to be found.

CHAP. VIII.

Husbandry of Herbs.

Lexanders are to be renewed as *Angelica*. It is a timely Pot-herb.

Angelica is renewed with his seed, whereof he beareth plenty the second yeer, and so dieth. You may remove the roots the first yeer. The leaves distilled,

ſtilled, yeeld water ſoveraigne to expell paine from the ſtomacke. The roote dried taken in the fall, ſtoppeth the poares againſt infections.

Annyſeedes make their growth, and beare ſeeds the firſt yeere, and dieth as *Coriander*: it is good for opening the pipes, and it is uſed in Comfits.

Artichoakes are renewed by dividing the rootes into ſets, in *March*, every third or fourth yeare. They require a ſeverall uſage, and therefore a ſeverall whole plot by themſelves, eſpecially conſidering they are plentifull of fruite much deſired.

Burrage and *Buglas*, two Cordials, renew themſelves by ſeed yearely, which is hard to be gathered, they are exceeding good Pot-herbes, good for Bees, and moſt comfortable for the heart and ſtomacke, as Quinces and Wardens.

Camomile, ſet rootes in bankes and walkes. It is ſweete ſmelling, qualifying head-ach.

Cabbages require great roome, they ſeed the ſecond yeare: ſow them in *February*, remove them when the plants are an handfull long, ſet deepe and wet. Looke well in drought for the white Caterpillers worme, the ſpaunes under the leafe cloſely: for every living Creature doth ſeeke foode and quiet ſhelter, and growing quicke, they draw to, and eate the heart: you may find them in a rainy deawy morning.

It is a good Pothearbe, and of this hearbe called *Cole*, our Countrie Houſe-wives give their pottage their name, and call them *Caell*.

Carduus Benedictus, or bleſſed thiſtle, ſeeds and dyes the firſt yeere, the excellent vertue thereof I referre to Herbals, for we are Gardiners, not Phyſitians.

Carrets are ſowne late in *Aprill* or *May*, as Turneps, elſe

elſe they ſeede the firſt yeere, and then their roots are naught: the ſecond yeere they dye, their roots grow great, and require large roome.

Chibals or *Chives* have their roots parted, as Garlick, Lillies, &c. and ſo are they ſet every third or fourth yeere: a good pot-herb opening, but evill for the eies.

Clarie is ſowne, it ſeedes the ſecond yeere, and dyes. It is ſomewhat harſh in taſte, a little in pottage is good, it ſtrengtheneth the reines.

Coaſt, Roote parted make ſets in *March*: it beares the ſecond yeere: it is uſed in Ale in *May*.

Coriander is for uſage and uſes, much like Anniſeeds.

Daffadowndillies have their roots parted, and ſet once in three or foure yeere, or longer time. They flower timely, and after *Midſummer* are ſcarcely ſeene. They are more for ornament, thē for uſe, ſo are Daiſies.

Daiſie-rootes parted and ſet, as Flowre-deluce and Camomile, when you ſee them grow too thicke or decay. They be good to keepe up, and ſtrengthen the edges of your borders, as Pinkes, they be red, white, mixt.

Ellycampane root is long laſting, as is the Lovage, it ſeeds yeerely, you may divide the root, and ſet the roote, taken in Winter it is good (being dryed, powdered and drunk) to kill itches.

Endive and *Succory* are much like in nature, ſhape, and uſe, they renue themſelves by ſeed, as Fennell, and other herbs. You may remove them before they put forth ſhankes, a good Pot-herbe.

Fennell is renewed, either by the ſeeds (which it beareth the ſecond yeere, and ſo yeerely in great abundance) ſowne in the fall or Spring, or by dividing one root into many Sets, as Artichoke, it is long of growth and

and life. You may remove the roote unſhankt. It is exceeding good for the eyes, diſtilled, or any otherwiſe taken: it is uſed in dreſſing Hives for ſwarmes, a very good Pot-hearbe, or for Sallets.

Fetherfewle ſhakes ſeed. Good againſt a ſhaking Fever, taken in a poſſet drinke faſting.

Floure-deluce, long laſting, Divide his roots, and ſet: the roots dryed have a ſweet ſmell.

Garlicke may be ſet an handfull diſtance, two inches deepe, in the edge of your beds. Part the heads into ſeverall cloves, and every clove ſet in the latter end of *February*, will increaſe to a great head before *September*: good for opening, evill for eyes: when the blade is long, faſt two & two together, the heads will be bigger.

Hollyhocke riſeth high, ſeedeth and dyeth: the chief uſe I know is ornament.

Iſop is reaſonable long laſting: young roots are good ſet, ſlips better. A good pot-hearbe.

Iuly-flowers, commonly called *Gilly-flowers*, or *Clove-Iuly-flowers* (I call them ſo, becauſe they flowre in *Iuly*) they have the name of *Cloves*, of their ſent. I may well call them the King of flowers (except the Roſe) and the beſt ſort of them are called *Queene Iuly flowers*. I have of them nine or ten ſeveral coulours, and divers of them as big as Roſes: of all flowers (ſave the Damaske Roſe) they are the moſt pleaſant to ſight and ſmell: they laſt not paſt three or four yeeres unremoved. Take the ſlips (without ſhanks) and ſet any time, ſave in extrem froſt, but eſpecially at *Michel-tide*. Their uſe is much in ornament, and comforting the ſpirits, by the ſence of ſmelling.

Iuly-flowers of the wall, or wall-*Iuly-flowers*, wall-flowers, or Bee-flowers, or Winter-*Iuly-flowers*, be-

cauſe

cauſe growing in the walls, even in winter, and good for Bees, will grow even in ſtone-walls, they will ſeem dead in Summer, and yet revive in Winter. They yeeld ſeed plentifully, which you may ſowe at any time, or in any broken earth, eſpecially on the top of a mud-wall, but moiſt: you may ſet the root before it be brancht: every ſlip that is not flowr'd, will take root; or crop him in Summer, and he will flower in Winter: but his Winter-ſeed is untimely. This and Palms are exceeding good, and timely for Bees.

Leeks yeeld ſeed the ſecond yeer, unremoved; and die, unleſſe you remove them: uſual to eat with ſalt and bread, as Onions always green, good pot-herb, evil for the eyes.

Lavendar Spike would be removed within ſeven yeers, or eight at the moſt. Slips twined, as Hyſop and Sage, would take beſt at *Michaeltide*. This flower is good for Bees, moſt comfortable for ſmelling, except Roſes: and kept dry, is as ſtrong after a yeere, as when it is gathered. The water of this is comfortable.

White *Lavendar* would be removed ſooner.

Lettice yeelds ſeed the firſt yeer, and dies: ſowe betime; and if you would have them *Cabbage* for Sallets, remove them as you do *Cabbage*. They are uſual in Sallets, and the pot.

Lillies white and red, removed once in three or four yeers, their roots yeeld many Sets, like the Garlick. *Michaeltide* is the beſt. They grow high, after they get root. Theſe roots are good to break a Bile, as are Mallows and Sorrel.

Mallows, French or gagged, the firſt or ſecond yeer, ſeed plentifully. Sowe in *March*, or before. They are good for the houſwifes pot, or to break a bunch.

Marigolds

Marigolds most commonly come of seed, you may remove the Plants when they be two inches long. The double Marigold, being as bigge as a little Rose, is good for shew. They are a good Pot-herbe.

Oculus Christi, or Christs eye, seeds and dyes the first or second yeere: you may remove the yong Plants, but seed is better. One of these seeds put into the eye, within three or four houres will gather a thicke skinne, cleere the eye, and bolt it selfe forth without hurt to the eye. A good Pot-herbe.

Onyons are sowne in *February*, they are gathered at *Michael-tide*, and all the Summer long, for Sallets; as also young Parsly, Sage, Chibals, Lettice, sweet Sicilly, Fennell, &c. good alone, or with meate as Muttons &c. for sauce, especially for the pot.

Parsly sow the first yeere, and use the next yeere: it seedes plentifully, an herbe of much use, as sweet Sicily is. The seed and roots are good against the Stone.

Parsneps require an whole plot, they be plentifull and common: sow them in *February*, the Kings (that is in the middle) seed broadest and reddest. Parsneps are sustenance for a strong stomacke, not good for evil eies: When they cover the earth, in a drought, to tread the tops, make the roots bigger.

Penny-royall, ot Pudding Grasse, creepes along the ground, like ground Ivie. It lasts long, like Daisies, because it puts and spreads dayly new roots. Divide, and remove the roots, it hath a pleasant tast and smell, good for the pot, or hackt meate, or Haggas Pudding.

Pumpions: Set seedes with your finger, a finger deepe, late in *March*, and so soone as they appeare, every night if you doubt frost, cover them, and water them continually out of a water-pot: they be very tender,

their

their fruit is great and wateriſh.

French Poppy beareth a great flower, and the Seed will make you ſleep.

Raddiſh is ſauce for cloyed ſtomacks, as Capers, Olives, and Cucumbers, caſt the ſeeds all Summer long here and there, and you ſhall have them alwaies young and freſh.

Roſemary, the grace of herbs here in *England*, in other Countries common. To ſet ſlips immediately after *Lammas*, is the ſureſt way. Seed ſowne may prove well, ſo they be ſowne in hot weather, ſomwhat moiſt, and good earth: for the herbe, though great, is neſh and tender (as I take it) brought from hot Countries to us in the cold North: ſet thin. It becomes a Window well. The uſe is much in meates, more in Phyſick, moſt for Bees.

Rue, or herbe of Grace, continually greene, the ſlips are ſet. It laſts long as Roſemary, Sothernwood, &c. too ſtrong for mine Houſewifes pot, unleſſe ſhee will brew Ale therewith, againſt the Plague: let him not ſeed if you will have him laſt.

Saffron every third yeare his roots would bee removed at *Midſummer*: for when all other herbs grow moſt, it dyeth. It flowreth at *Michael-tide*, and groweth all Winter: keep his flowers from birds in the morning, & gather the yellow (or they ſhape much like Lillies) dry, and after dry them: they be precious, expelpelling diſeaſes from the heart and ſtomack.

Savery ſeeds and dyes the firſt yeare, good for my Houſewifes pot and pye.

Sage, ſet ſlips in *May*, and they grow aye: Let it uot ſeed it will laſt the longer. The uſe is much and common. The Monkiſh Proverb is *tritum*.

Cur

Cur moritur homo, cum ſalvia creſcit in horto?

Skerots, the roots are ſet when they be parted, as *pyonie*, and Flower-deluce at *Michael-tide*: the root is but ſmall and very ſweet. I know none other ſpecial uſe but the Table.

Sweet *Sicely*, long laſting pleaſantly taſting, either the ſeed ſowne, or the root parted, and removed, makes increaſe, it is of like uſe with parſly.

Strawberries long laſting, ſet roots at *Michael-tide*, or the Spring, they be red, white and greene, and ripe, when they be great and ſoft, ſome by *Midſummer* with us. The uſe is, they will coole my Houſewife well, if they be put in Wine or Creame with Sugar.

Time, both ſeeds, ſlips and rootes are good. If it ſeed not, it will laſt three or foure yeares or more, it ſmelleth comfortably. It hath much uſe: namely, in all cold meats, it is good for Bees,

Turnep is ſowne. In the ſecond yeare they beare plenty of ſeed: they require the ſame time of ſowing that Carrets doe: they are ſick of the ſame diſeaſe that Cabbages be. The root increaſeth much, it is moſt wholſome, if it be ſowne in a good and well tempered earth. Soveraigne for eyes and Bees.

I reckon theſe herbes onely, becauſe I teach my Country Houſewife, not skilfull Artiſts, and it ſhonld be an endleſſe labour, and would make the matter tedious to reckon up *Landtheefe*, *Stock-Iuly-flowers*, *Charvell*, *Valerian*, *Go-to bed at noone*, *piony*, *Licoras*, *Tanſie*, *Garden mints*, *Germander*, *Centaurie*, and a thouſond ſuch phyſick Herbs. Let her firſt grow cunning in this, and then ſhe may enlarge her Garden as her skill and ability increaſeth. And to help her the more I have ſet her downe theſe obſervations.

CHAP.

CHAP. 9.
Generall Rules in Gardening.

IN the South parts Gardening may be more timely, and more safely done, then with us in *Yorkeshire*, because our ayre is not so favourable, nor our ground so good.

2 Secondly most seeds shakt, by turning the good earth, are renued. their mother the earth keeping them in her bowels, till the Sunne their Father can reach them with his heat.

3 In setting herbs, leave no top more then an handfull above the ground, nor more then a foot under the earth.

4 Twine the roots of those slips you set, if they will abide it. Gilly-flowers are too tender.

5 Set moist, and sowe dry.

6 Set slips without shankes any time, except at *Midsummer*, and in frosts.

7 Seeding spoiles the most roots, as drawing the heart and sap from the root.

8 Gather for the pot and medicines, herbs tender and greene, the sap being in the top, but in Winter the roote is best.

9 All the herbs in the Garden for flowers, would once in seven yeeres be renued, or soundly watered with puddle water, except Rosemary.

10 In all your Gardens and Orchards, bankes and seates of Camomile, Peny-royall, Daisies and Violets, are seemely and comfortable.

11 These require whole plots: Artichokes, Cabbages, Turneps, Parsneps, Onyons, Carrets, and (if you will)

will) Saffron and Skerrits.

12 Gather all your ſeeds, dead, ripe, and dry.

13 Lay not dung to the roots of your herbs, as uſually they do : for dung not melted is too hot, even for trees.

14 Thin ſetting and ſowing (ſo the rootes ſtand not paſt a foot diſtance) is profitable, for the herbs will like the better. Greater herbs would have more diſtance.

15 Set and ſow herbs in their time of growth (except at *Mid-ſummer*, for then they are too too tender) but trees in their time of reſt.

16 A good Houſewife may, and will gather ſtore of herbs for the pot, about *Lammas*, and dry them, and pownd them, and in Winter they will make good ſervice.

Thus have I lined out a Garden to our Countrey Houſewives, and given them rules for common herbs. If any of them (as ſometimes they are) be knotty, I referre them to *Chap.* 3. The skill and paines or weeding the Garden with weeding Knives of fingers, I refer to themſelves, and their maides, willing them to take the opportunity after a ſhowre of raine : withall, I adviſe the Miſtreſſe, either be preſent her ſelfe, or to teach her maides to know herbs from weeds. Weeding. A good note.

CHAP. 10.

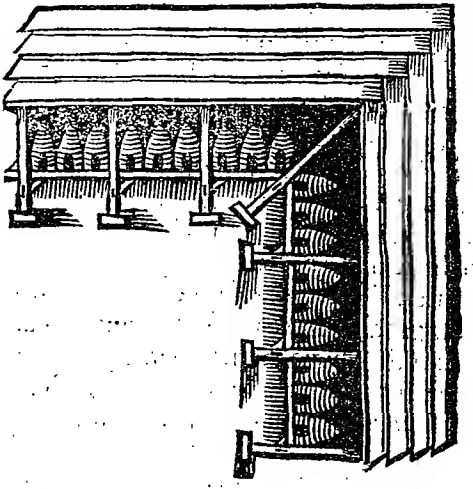
The Husbandry of Bees.

THere remaineth one neceſſary thing to be preſcribed, which in mine opinion makes as much for ornament as either Flowers, or form, or cleanneſſe, and I am ſure as commodious as any of, or all the reſt: which is Bees, well ordered. And I will not account her any of my good Houſe-wives, that wanteth either Bees or skilfulneſſe about them. And though I know ſome have written well and truly, and others more plentifully upon this theme: yet ſomewhat have I learned by experience (being a Bee-maſter my ſelfe) which hitherto I cannot finde put into writing, for which I thinke our Houſe-Wives will count themſelves beholding unto mee.

Bee Houſes. The firſt thing that a Gardiner about Bees muſt be carefull for, is an houſe not ſtakes and ſtones abroad, *ſub dio*: for ſtakes rot and reele, Raine and Weather eate your hives, and covers, and cold moſt of all is hurtfull for your Bees. Therefore you muſt have an houſe made along a ſure dry wall in your Garden, neere, or in your Orchard: for bees love flowers and wood with their hearts.

This

This is the forme ; a Frame ſtanding on poſts with a Floore (if you would have it hold more Hives, two



Floores boorded) layd on bearers, and back poſts, covered over with boords, ſlate-wiſe.

Let the floores be without holes or clifts, leſt in caſting time, the Bees lye out, and loyter.

And though your Hives ſtand within an hand-breadth the one of another : yet will Bees know their home.

In this Frame may your Bees ſtand drie and warme, eſpecially if you make dores like dores of windowes to ſhroud them in Winter, as in an houſe : provided you leave the Hives mouthes open. I my ſelf

have deviſed ſuch an houſe, and I find that it keeps and ſtrengthens my Bees much, and my hives will laſt ſix to one.

Hives. M. *Markham* commends hives of wood; I diſcommend them not: but ſtraw hives are in uſe with us, and I think, with all the world, which I commend for nimbleneſſe, cloſeneſſe, warmneſſe and drineſſe. Bees love no externall motions of dawbing, or ſuch like. Sometimes occaſion ſhall be offered to lift and turne hives, as ſhall appeare hereafter. One light entire hive of ſtraw, in that caſe, is better than one that is dawbed, weighty & comberſome. I wiſh every hive, for a keeping ſwarme, to hold three pecks at leaſt in meaſure. For too little hives procure Bees, in caſting time, either to lie out, and loyter, or elſe to caſt before they be ripe and ſtrong, and ſo make weake ſwarms and untimely: Whereas if they have room ſufficient, they ripen timely, and caſting ſeaſonably, are ſtrong, and fit for labour preſently. Neither would the hive be too too great, for then they loyter, and waſte meate and time.

Hiving of Bees. Your Bees delight in wood, for feeding, eſpecially for caſting: therefore want not an Orchard. A *Mayes* ſwarme is worth a Mares Foale: if they want wood, they be in danger of flying away. Any time before *Mid-ſummer* is good for caſting, and timely before *July* is not evill. I much like M. *Markhams* opinion for hiving a ſwarme in combes of a dead or forſaken hive, ſo they be freſh and cleanely. To thinke that a ſwarme of your own, or others, will of it ſelfe come into ſuch and hive, is a meere conceit, *Experto crede Roberto.* His ſmearing with honey, is to no purpoſe, for the other Bees will eate it up. If your ſwarme knit in the top of a tree, as they will, if the wind beate them not to fall

downe

down: let the ſtool or ladder deſcribed in the Orchard do you ſervice.

The leſſe your Spelkes are, the leſſe is the waſte of your Hony, and the more eaſily will they draw, when you take your Bees. Four Spelks a thwart, and one top *Spelk* are ſufficient. The Bees will faſten their combes to the Hive. A little Hony is good, but if you want Fennel will ſerve to rub your Hive withal. The Hive being dreſt and ready ſpelkt, rub'd, and the hole made for their paſſage (I uſe no hole in the Hive but a piece of wood hoal'd to ſave the Hive and keepe out Mice) ſhake in your Bees, or the moſt of them (for all commonly you cannot get, the remainder wil follow. Many uſe ſmoke, nettles, &c. which I utterly diſlike: for Bees love not to be moleſted. Ringing in the time of caſting is a meer fancy, violent handling of them is ſimply evil, becau'e Bees of all other creatures love cleanlineſs and peace. Therefore handle them leaſurely and quietly, and their Keeper whom they know may do with them what he wil without hurt: Being hived at night, bring them to their ſeat. Set your hives all of one year together. Spelkes.

Signes of breeding, if they be ſtrong.

1 They will avoid dead young Bees and Droans.

2 They will ſweat in the morning, till it run from them; alwayes when they be ſtrong.

Signes of caſting.

1 They will fly Droans by reaſon of heat.

2 The young Swarme will once or twice in ſome faire ſeaſon, come forth muſtering, as though they would caſt, to prove themſelves, and go in again.

3 The night before they caſt, if you lay your ear to the Hives mouth, you ſhal hear two or three, but eſpecially one above the reſt, cry, Up, up, up; or, Tout, tout, tout, like a Trumpet ſounding the alarum to the battell.

Much deſcanting there is, of, and about the Maſter Bee, and their degrees, order, and Government: but the truth in this point is rather imagined, then demonſtrated. There are ſome conjectures of it, *viz.* we ſee in the combs divers greater houſes then the reſt, and we commonly hear the night before they caſt, ſometimes one Bee, ſometimes two, or more Bees, give a lowd & ſeverall ſound from the reſt, and ſometimes Bees of greater bodies then the common ſort: but what of all this? I leane not on conjectures, but love to ſet down that I know to be true, and leave theſe things to them that love to divine.

Keep none weak, for it is hazard, oftentimes with loſſe: Feeding will not help them; for being weake, they cannot come down to meat, or if they come down, they dye, becauſe Bees weak cannot abide cold. If none of theſe, yet will the other Bees being ſtrong, ſmell the honey, and come and ſpoyl, and kill them. Some helpe is in caſting Time, to put two weak ſwarmes together, or as Mr. *Markham* well ſaith: Let not them caſt late, by raiſing them with wood or ſtone: but with times (ſay I.) An impe is three or four wreathes, wrought as the Hive, the ſame compaſſe, to raiſe the Hive withall: but by experience in tryall, I have found out a better way by Cluſtering, for late or weake ſwarmes hitherto, not found out of any that I know. That is this: After caſting time, if I have any ſtock proud, and hindered from timely caſting, with former Winters

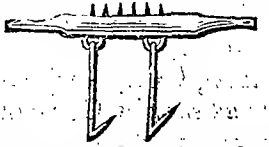
Catching.

Cluſtering.

ters poverty, or evill weather in caſting time, with two handles and crooks fitted for the purpoſe, I turne up that ſtock ſo peſtered with Bees, and ſet it on the crown, upon which ſo turned with the mouth upward I place another empty hive well dreſt, and ſpelkt, into which without any labour, the Swarm that would not depart, and caſt, will preſently aſcend, becauſe the old Bees have this quality (as all other breeding creatures have) to expell the young, when they have brought them up.

There will the Swarm build as kindly, as if they had of themſelves been caſt. But be ſure you lay betwixt the Hives ſome ſtraight and cleanly ſticke or ſtickes, or rather a boord with holes, to keepe them aſunder: otherwiſe they will joyn their works together ſo faſt that they cannot be parted. If you ſo keep them aſunder at *Michael-tide*, if you like the weight of your ſwarm (for the goodneſſe of ſwarms is tryed by the weight) ſo catched, you may ſet it by for a ſtocke to keep. Take heed in any caſe the combes be not broken, for then the other Bees will ſmell the honey, and ſpoyl them. This have I tryed to be very profitable for the ſaving of Bees.

The Inſtrument hath this forme. The great ſtraight



piece is wood, the reſt are iron claſpes and nailes, the claſpes are looſe in the Staples: Two men with two of theſe, faſtened to the Hive, will eaſily turn it up.

They gather not till *July*; for then they be diſcharged of their young, or elſe they are become now ſtrong to labour, and now ſap in flowers is ſtrong and proud: by reaſon of time, and force of Sun. And now alſo in the North (and not before) the hearbs of greateſt vigour put their flowers; as Beans, Fennel, Burrage Rape, &c.

The moſt ſenſible weather for them, is heat and drought, becauſe the neſh Bee can neither abide cold or wet: and ſhowres (which they well fore-ſee) do interrupt their labours, unleſſe they fall on the night, and ſo they further them.

Droanes. After caſting *Time*, you ſhall benefit your ſtockes much, if you help them to kill their Droans, which by all probability and judgment, are an idle kind of Bees and waſtfull. Some ſay they breed, and have ſeen yong Droans in taking their honey, which I know is true. But I am of opinion, that there are alſo Bees which have loſt their ſtings, and ſo being as it were gelded, become idle and great: there is great uſe of them, *Deus & natura nihil fecit frustra. They hate the Bees, and cauſe them caſt the ſooner: they never come forth, but when they be over heated: they never come home loaden.* After caſting time, and when the Bees want meat, *you ſhall ſee the labouring Bees faſten on them, two, three, or four at once, as if they were theeves to be led to the Gallowes, and killing them, they caſt out, and draw them far from home, as hatefull enemies.* Our Houſe-wife, if ſhe be the Keeper of her own Bees (as ſhe had need to be) may with her bare hand in the heat of the day ſafely deſtroy them in the Hives mouth. Some uſe towards night, in a hot day, to ſet before the mouth of the

the Hive a thin board, with little holes, in at which the leſſer Bees may enter, but not the Droans; ſo that you may kill them at your pleaſure.

Annoyances.

Snails ſpoyl them by night like thieves: they come ſo quietly, and are ſo faſt, that the *Bees* fear them not: look early and late, eſpecially in a rainy or dewey evening or morning.

Mice are no leſſe hurtful, and the rather to Hives of ſtraw: and therefore coverings of ſtraw draw them: they wil in either at the mouth, or ſhear themſelvs an hole: the remedy is good Cats, Rats-bane, and watching.

The cleanly *Bee* hateth the ſmoak as poyſon; therefore let your *Bees* ſtand nearer your garden, then your Brew-houſe or Kitchin.

They ſaw Sparrowes and Swallowes are enemies to *Bees*, but I ſee it not.

More Hives periſh by Winters cold, then by all other hurts: for the Bee is tender and nice, and onely liues in warme weather, and dyes in cold: And therefore let my Houſe-wife be perſwaded, that a warm dry houſe before deſcribed, is the chiefeſt helpe ſhe can make her Bees againſt this, and many more miſchiefes. Many uſe againſt cold in winter, to ſtop vp their hiue cloſe, and ſome ſet them in houſes, perſwading themſelues, that thereby they relieue their Bees. Firſt, *toſſing and moving is hurtfull. Secondly, in houſes, going, knocking, and ſhaking is noyſome. Thirdly, too much heat in an houſe is unnaturall for them: but laſtly, and eſpecially, Bees cannot abide to be ſtopt cloſe up.* For at every warme ſeaſon of the Sunne they revive, and living eat, and eating muſt needs purge abroad, (in her houſe) the cleanly *Bee* will not purge

her

her ſelf. Judge you what it is for any living creature, not to disburden nature. Being ſhut up in calme ſeaſons, lay your ear to the Hive, and you ſhall hear them yarn and yeil, as ſo many hungred priſoners. Therefore impound not your Bees, ſo profitable and free a creature.

taking of Bees. Let none ſtand about three years, elſe the combes will be black and knotty, your honey will be thinne and uncleanly: and if any caſt after three yeares, it is ſuch as have ſwarmes and old Bees kept altogether, which is great loſſe. Smoaking with Ragges, Rozen, or Brimſtone, many uſe: ſome uſe drowning in a tub of clean water, and the water well brew'd, will be good botchet. Draw out your ſpelks immediatly with a paire of pinchars, leſt the Wood grow ſoft and ſwel, and ſo will not be drawn, then muſt you cut your Hive.

Straining honey. Let no fire come near your Honey, for fire ſoftneth the Waxe and droſſe, and makes them runne with the Honey. Fire ſoftneth, weakeneth, and hindereth Hony for purging. Break your Combes ſmall (when the dead empty Combes are parted from the loaden Combes) into a ſive, born over a great bowle, or veſſel, with two ſtaves, and ſo let it run two or three dayes. The ſooner you tunne it up, the better will it purge. Run your ſwarm Honey by it ſelf, and that ſhall be your beſt. The elder your Hives are, the worſe is your Honey.

Veſſels. Uſuall Veſſels are of Clay, but after wood be ſatiated with Honey (for it will leake at firſt: for Honey is marvellouſly ſearching, the thicke, and therefore vertuous.) I uſe it rather, becauſe it will not break ſo ſoon, with fals, froſts, or otherwiſe, and greater veſ-

ſels

ſels of clay will hardly Irſt.

When you uſe your Honey, with a ſpoon take off the skin which it hath put up.

And it is worth the regard, that Bees thus uſed, if you have but forty ſtockes, ſhall yeeld you more commodity cleery than forty Acres of Ground.

And thus much may ſuffice, to make
good Houſewives love and have
good Gardens and Bees.

Deo Laus.

FINIS.

The

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A MOST PROFITABLE New Treatiſe, from approved experience of the Art of propagating Plants.

By SIMON HARVVARD.

CHAP. I.

The Art of propagating Plants.

THere are foure ſorts of planting or propagating, as in laying of ſhoots or little branches, whiles they are yet tender, in ſome pit made at their foot, as ſhall be ſaid hereafter, or upon a little Ladder or Basket of earth, tied to the bottome of the branch, or in boaring a Willow thorow, and putting the branch of the tree into the hole, as ſhall be fully declared in the Chapter of Grafting. 1.

There are likewiſe ſeaſons to propagate in; but the beſt is in the Spring, and *March*, when the trees are in the Flower, and do begin to grow luſty. The young planted

planted Siens or little Grafts, muſt be propagated in the beginning of Winter, a foot deepe in the earth, and good manure mingled amongſt the earth, which you ſhall caſt forth of the pit, wherein you mean to propagate it, to tumble it in upon it againe. In like manner, your ſuperfluous Siens, or little Plants muſt be cut cloſe by the earth, when as they grow about ſome ſmal Impe, which we meane to propagate, for they would do nothing but rot: For to propagate, you muſt digge the earth round about the tree, that ſo your roots may be laid in a manner halfe bare. Afterwards draw into length the pit on that ſide where you meane to propagate, and according as you perceive that the roots will
2. be beſt able to yeeld, and be governed in the ſame pit, to uſe them, and that with all gentleneſſe, and ſtop cloſe your Siens, in ſuch ſort, as that the wreath which is in the place where it is grafted, may be a little lower than the Siens of the new Wood, growing out of the earth, even ſo high as it poſſible may be. If the trees that you would propagate be ſomewhat thick, and thereby the harder to ply, and ſomewhat ſtiffe to lay in the pit: then you may wet the ſtock almoſt to the midſt, betwixt the roote and the wreathing place, and ſo with gentle handling of it, bow down into the pit the wood which the grafts have put forth, and that in as round a compaſſe as you can, keeping you from breaking of it: afterward lay over the cut, with gummed Wax, or with gravell and ſand.

CHAP.

CHAP. 2.

Grafting in the Barke.

Grafting in the Bark, is uſed from mid-*Auguſt*, to the beginning of Winter, and alſo when the Weſterne-wind begin-neth to blow, being from the 7 of *Fe-bruary*, unto the 11 of *Iune*. But there muſt care be had, not to graffe in the bark in any rainy ſeaſon, becauſe it would waſh away the matter of joyning the one and the other together, and ſo hinder it.

Grafting in the budde, is uſed in the Summer time, from the end of *May*, untill *Auguſt*, as being the time when the trees are ſtrong and luſty, and full of ſap and leaves. To wit, in a hot Countrey, from the midſt of *Iune*, unto the midſt of *Iuly*: but in cold Countries to the midſt of *Auguſt*, after ſome ſmall ſhowers of Raine.

If the Summer be ſo exceedingly dry, as that ſome trees doe withold their ſap, you muſt waite the time till it doe retune.

Graft from the full of the Moone, untill the end of the old.

You may graft in a cleft, without having regard to Raine, for the ſap will keepe it off.

You may graft from mid-*Auguſt*, to the beginning of *November*: Cowes dung with ſtraw doth mightily preſerve the graft.

It is better to graft in the evening, than the morning.

The furniture and tooles of a Grafter, are a Basket to lay his grafts in, Clay, Gravell, Sand, or ſtrong Earth, to draw over the plants cloven: Moſſe, Woollen

Woollen clothes, barkes of Willow to ioyne to the late things and earth before ſpoken; and to keep them faſt: Oziers to ty againe upon the bark, to keepe them firme and faſt: gummed Wax, to dreſſe and cover the ends and tops of the grafts newly cut, that ſo the raine and cold may not hurt them, neither yet the ſap riſing from below, be conſtrained to returne againe unto the ſhootes. A little Saw or hand-Saw, to ſaw off the ſtock of the plants, a little Knife or Pen-knife to graffe, and to cut and ſharpen the grafts, that ſo the barke may not pill nor be broken; which often commeth to paſſe when the graft is full of ſap. You ſhall cut the graffe ſo long, as that it may fill the cliffe of the plant, and therewithall it muſt be left thicker on the bark-ſide, that ſo it may fill up both the cliffe and other inciſions, as any need is to be made, which muſt be alwayes well ground, well burniſhed without all ruſt. Two wedges, the one broad for thick trees, the other narrow for leſſe and tender trees, both of them of box, or ſome other hard and ſmooth wood, or ſteele, or of very hard iron, that ſo they may need leſſe labour in making them ſharpe.

A little hand-bill to ſet the plants at more liberty, by cutting off ſuperfluous boughs, helvd of Jvory, Box, or Braſill.

CHAP.

Chap. 3.

Grafting in the Cleft.

THe manner of grafting in a cleft, to wit, the ſtock being clov'd, is proper not onely to trees, which are as great as a mans legs or armes, but alſo to greater. It is true that being trees cannot eaſily be cloven, in their ſtock, that therefore it is expedient to make inciſion in ſome one of their branches, & not in the maine body, as we ſee to be practiſed in great Apple-trees, and great Peare-trees, and as we have already declared heretofore.

To graft in the left, you muſt make choyſe of a graft that is full of ſap and juyce, but it muſt not be, but till from after *Ianuary* until *March*: And you muſt not thus graft in any tree that is already budded, becauſe a great part of the juyce and ſap would be already mounted up on high, and riſen to the top, and there diſperſed and ſcattered hither and thither, into every ſpring and twig, and uſe nothing welcome to the graft.

You muſt likewiſe be reſolved not to gather your graft the day you graft in, but ten or twelve dayes before: for otherwiſe, if you graft it new gathered it will not be able eaſily to incorporate it ſelfe with the body and ſtock, where it ſhall be grafted; becauſe that ſome part of it will dry, and by this meanes will be a hinderance in the ſtock to the riſing up of the ſap, which it ſhould communerate unto the graft, for the making of it to put forth, and whereas this dried part will fall a crumbling, and breaking thorow his rottenneſſe, it wil cauſe to remaine a concavitie, or hollow place in the ſtock, which wil be an occaſion of a like inconvenience

to befall the graft. Moreover, the graft being new and tender, might easily be hurt of the hands, which are of necessity to be tyed about the Stock, to keepe the graft firme and fast. And you must further see, that your Plant was not of late removed, but that it have alreadie fully taken root.

7 When you are minded to graft many grafts into one cleft, you must see that they be cut in the end all alike.

See that the grafts be of one length, or not much differing, and it is enough, that they have three or foure eylets without the wrench: when the Plant is once sawed, and lopped of all his small Siens and shootes round about, as also implyed of all his branches, if it have many: then you must leave but two at the most, before you come to the cleaving of it: then put to your little Saw, or your Knife, or other edged toole that is very sharp, cleave it quite thorow the middest, in gentle and soft sort: First, tying the Stock very sure, that so it may not cleave further then is need: and then put to your Wedges into the cleft untill such time as you have set in your grafts, and in cleaving of it, hould the Knife with the one hand, and the tree with the other, to helpe to keep it from cleaving too far. Afterwards put in your wedge of Box or Brazill, or bone at the small end, so that you may the better take it out againe, when you have set in your grafts.

8 If the Stock be cloven, or the Barke looſed two much from the wood: then cleave it down lower, and set your grafts in, and looke that their inciſion be fit, and very justly answerable to the cleft, and that the two saps, first, of the plant and graft, be right and even set one against the other, and so handsomely fitted, as that

that there may not be the leaſt appearance of any cut or cleft. For if they do not thus iumpe one with another, they will never take one with another, becauſe they cannot work their ſeeming matter, and as it were cartilaguous glue in convenient ſort or manner, to the gluing of their joynts together. You muſt likewiſe be ware, not to make your cleft overthwart the pitch, but ſomewhat aſide.

The bark of your Plant being thicker then that of your graft, you muſt ſet the graft ſo much the more outwardly in the cleft, that ſo the two ſaps may in any caſe be joyned, and ſet right the one with the other, but the rinde of the plant muſt be ſomewhat more out then that of the grafts or cloven ſide.

To the end that you may not faile of this worke of imping, you muſt principally take heed, not to over-cleave the Stocks of your Trees. But before you widen the cleft of your wedges, binde and go about the Stock with two or three turnes, and that with an Ozier, cloſe drawn together, underneath the ſame place, where you would have your cleft to end, that ſo your Stock cleave not too far, which is a verie uſuall cauſe of the miſcarrying of grafts, in aſmuch as hereby the cleft ſtandeth ſo wide and open, as that it cannot be ſhut, and ſo not grow together againe; but in the meane time ſpendeth it ſelfe, and breatheth out all his life in that place, which is the cauſe that the Stock and the Graft are both ſpilt. And this falleth out moſt often in Plum-trees, & branches of trees. You muſt be carefull to joyn the rinds of your grafts, and plants, that nothing may continue open, to the end that the wind, moiſture of the clay or rain, running upon the grafted place, do not get in: when the plant cleveth very 9.

ſtraight, there is not any danger nor hardneſſe in ſlo-
10. ping down the Graft. If you leave it ſomewhat uneven, or rough in ſome places, ſo that the ſaps both of the one and of the other may the better grow, and be glued together, when your grafts are once well joyned to your Plants, draw out your wedges very ſoftly, leſt you diſplace them againe, you may leave there within the cleft ſome ſmall end of a wedge of greene wood, cutting it very cloſe with the head of the Stock: Some caſt give into the cleft, ſome ſugar, and ſome gummed Wax.

11. If the Stock of the Plant whereupon you intend to graft, be not ſo thick as your graft, you ſhall graft it after the faſhion of a Goats foot, make a cleft in the Stock of the plant, not direct, but byas, and that ſmooth and even, not rough: then apply and make faſt thereto, the graft with all his bark on, and anſwering to the bark of the Plant. This being done, cover the place with the fat earth and moſſe of the Woods tyed together with a ſtrong band: ſtick a pole of Wood by it, to keep it ſteadfaſt.

CHAP. 4.

Grafting like a Scutcheon.

IN grafting after the manner of a Scutcheon, you ſhall not vary nor differ much from that of the Flute or Pipe, ſave only that the Scutcheon like graft having one eylet, as the other hath, yet the wood of the tree thereupon the Scutcheon-like graft is grafted, hath not any knob, or budde, as the Wood whareupon the graft is graf-

ted,

ted, after the manner of a Pipe.

In Summer when the trees are well repleniſhed with ſap, and that their new Siens begin to grow ſomewhat hard, you ſhall take a ſhoote at the end of the chiefe branches of ſome noble and reclaimed tree, whereof you would faine have ſome fruit, and not many of his old ſtore or wood, and from thence raiſe a good eylet, the taile and all thereof to make your graft. But when you chooſe, take the chickeſt, and groſſeſt, divide the taile in the middeſt, before you do any thing elſe, caſting away the leafe (if it be not a pear-plum-tree: for that would have two or three leaves) without removing any more of the ſaid taile: afterward with the point of a ſharpe knife, cut off the Bark of the ſaid ſhoote, the patterne of a ſhield, of the length of a naile. 12.

In which there is onely one eylet higher then the middeſt together, with the reſidue of the taile which you left behinde: and for the lifting up of the ſaid graft in Scutcheon, after that you have cut the bark of the ſhoote round about, without cutting of the wood within, you muſt take it gently with your thumbe, and in putting it away you muſt preſſe upon the wood from which you pull it, that ſo you may bring the bud and all away together with the Scutcheon: for if you leave it behinde with the wood, then were the Scutcheon nothing worth. You ſhall finde out if the Scutcheon be nothing worth, if looking within when it is pulled away from the wood of the ſame ſuite, you finde it to have a hole within, but more manifeſtly, if the bud do ſtay behinde in the Wood, which ought to have bin in the Scutcheon. 13.

Thus your Scutcheon being well raiſed and taken

14. off, hold it a little by the tayle betwixt your lips, without wetting of it, even untill you have cut the back of the tree where you would graft it, and looke that it be cut without any wounding of the wood within, after the manner of a crutch, but somewhat longer then the Scutcheon that you have to set in it, and in no place cutting the wood within; after you have made incision, you must open it, and make it gape wide on both sides, but in all manner of gentle handling, and that with little Sizers of bone, and separating the wood and the bark a little within, even so much as your Scutcheon is in length and breadth: you must take heed that in doing hereof, you do not hurt the bark.

This done take your Scutcheon by the end, and your taile which you have left remaining, and put it
15. to your incision made in your tree, lifting up softly your two sides of the incision with your said Sizers of bone, and cause the said Scutcheon to joyne, and lie as close as may bee, with the Wood of the tree, being cut, as aforesaid, in waying a little upon the end of your knife so cut, & let the upper part of your Scutcheon lie close unto the upper end of your incision, or barke of your said tree: afterward binde your Scutcheon about with a bande of Hempe, as thick as a pen of a quill, more or lesse, according as your tree is small or great, taking the same Hempe in the middest, to the end that either part of it may performe a like service; and wreathing and binding of the said Scutcheon into the incision of a tree, and it must not be tied too strait, for that would keepe it from taking the joyning of the one lap to the other, being hindred thereby, and neither the Scutcheon, nor yet the Hempe must be moist or wet; and the more just-

ly

ly to binde them together, bgin at the back ſide of the tree, right over againſt the middeſt of the inciſion, and from thence come forward to joyne them before, above the eylet and taile of the Scutcheon, croſſing your band of Hempe, ſo oft as the two ends meet, and from thence returning back again, come about and tie it likewiſe underneath the eylets: and thus caſt about your band ſtill backward & fordward, untill the whole cleft of the inciſion be covered above and below with the ſaid Hempe, the eylet onely excepted, and his tayle which muſt not be covered at all; his tayle will fall away one part after another, and that ſhortly after the ingrafting, if ſo be the Scutcheon will take. Leave your trees and Scutcheons thus bound, for the ſpace of one moneth, and the thicker, a great deale longer time. Afterward looke them over, and if you perceive them to grow together, untye them, or at the leaſtwiſe cut the Hempe behinde them, and leave them uncovered. Cut alſo your branch two or three fingers above that, ſo the impe may proſper the better: and thus let them remaine till after Winter, about the moneth of *March*, and *April*. 17.

If you perceive that your budde of your Scutcheon do ſwell and come forward: then cut of the tree three fingers or thereabouts, above the Scutcheon: for if it be cut off too neere the Scutcheon, at ſuch time as it putteth forth his firſt bloſſome, it would be a meanes greatly to hinder the flowing of it, and cauſe alſo that it ſhould not thrive and proſper ſo well after that one yeare is paſt, and that the ſhoote beginneth to be ſtrong: beginning to put forth the ſecond bud and bloſome, you muſt go forward to cut off 18.

in byas-wise the three fingers in the top of the tree, which you left there, when you cut it in the Year going before, as hath bin said.

19. When your shoote shall have put forth a great deale of length, you must sticke downe there, even hard joyned thereunto, little stakes, tying them together very gentlie and easilie; and these shall stay your shootes and prop them up, letting the winde from doing any harme unto them. Thus you may graft white Roses in red, and red in white. Thus you may graft two or three Scutcheons: provided that they be all of one side: for they will not be set equallie together in height because then they would be all starvelings, neither would they bee directlie one o-

20. ver another; for the lower would stay the rising up of the sap of the tree, and so those above should consume in penurie, and undergoe the aforesaid inconvenience. You must note, that the Scutcheon which is gathered from the Sien of a tree whose fruit is sowre, must be cut in square forme, and not in the plaine fashion of a Scutcheon. It is ordinary to graffe the sweet Quince-tree, bastard peach-tree, Apricock-tree, Iujube-tree, sowre Cherry-tree, sweet Cherry-tree, and Chestnut-tree, after this fashion, howbeit they might be grafted in the cleft more easilie, and more profitably; although divers be of a contrary opinion, as thus best: Take the grafts of sweet Quince-tree, and bastard peach-tree, of the fairest wood, and best fed that you can finde, growing upon the wood of two

21. years old, because the wood is not so firme nor solid as the others: and you shall graffe them upon small plum-tree stocks, being of the thicknes of ones thumbe; these you shall cut after the fashion of a Goats foote: you shall

ſhall not go about to make the cleft of any more ſides then one, being about a foot high from the ground; you muſt open it with your ſmall wedge: and being thus grafted, it will ſeeme to you that it is open but of one ſide; afterward you ſhall wrap it up with a little Moſſe, putting thereto ſome gummed Wax, or Claie, and binde it up with Oziers to keepe it ſurer, becauſe the ſtock is not ſtrong enough it ſelfe to hold it, and you ſhall furniſh it every manner of way as others are dealt withall: this is moſt profitable.

The time of Grafting.

All Moneths are good to graft in, (the Moneth of *October* and *November* onlie excepted) But commonlie, graft at that time of the Winter, when the ſap begineth to riſe.

In a cold Countrey graft later, and in a warme Countrey earlier.

The beſt time generall is from the firſt of *Febuary*, untill the firſt of *May*.

The grafts muſt alwaies be gathered, in the old of the Moone.

For grafts chooſe ſhoots of a Yeare old, or at the furthermoſt two Years old.

If you muſt carrie grafts far, prick them into a Turnep newlie gathered, or lay earth about the ends.

If you ſet ſtones of Plummes, Almonds, Nuts, or Peaches: Firſt, let them lie a little in the Sun, and then ſteepe them in Milk or Water, three or foure daies before you put them into the earth.

Drie the Kernels of Pippins, and ſow them in the end of *November*.

The

The ſtone of a Plum-tree muſt be ſet a foot deepe in *November*, or *February*.

The Date-ſtone muſt be ſet the great end downwards, two cubits deepe in the earth, in a place enriched with dung.

The Peach-ſtone would be ſet preſently after the Fruit is eaten, ſome quantity of the fleſh of the Peach remaining about the ſtone.

If you will have it to be excellent, graft it afterward upon an Amond tree.

The little Siens of Cherry-trees, grown thick with haire, rots, and thoſe alſo which do grow up from the roots of the great Cherry-trees, being removed, do grow better and ſooner then they which come of ſtones: but they muſt be removed and planted while they are but two or three years old, the branches muſt be lopped.

The

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To ſet ſtones of Plummes, Dates, Nut, and Peaches,
To make fruit ſmell well,
To plant Cherry-trees.

THE HVSBAND MANS FRVITFULL ORCHARD.

For the true ordering of all ſorts of Fruits in their due ſeaſons : and how double increaſe commeth by care in gathering year after year: as alſo the beſt way of carriage by land or by water, with their preſervation for longeſt continuance.

OF all ſtone Fruit, Cherries are the firſt to be gathered : of which, though we reckon foure ſorts; *Engliſh*, *Flemiſh*, *Gaſcoyne* and Black, yet are they reduced to two, the early, and the ordinary : the early are thoſe whoſe grafts came firſt from *France* and *Flanders*, & are now ripe with us in *May*: the ordinary is our own naturall Cherry, and is not ripe before *Iune*, they muſt be carefully kept from Birds, either Cherries.

ther with nets, noiſe, or other induſtry.

Gathering of Cherries. They are not all ripe at once, nor may be gathered at once, therefore with a light Ladder, made to ſtand of it ſelfe, without hurting the boughes, mount to the tree, and with a gathering hook, gather thoſe which be full ripe, and put them into your Cherry-pot, or Kybzey hanging by your ſide, or upon any bough you pleaſe, and be ſure to break no ſtalk, but that the cherry hanges by; and pull them gently, lay them downe tenderly, and handle them as little as you can.

To carry Cherries. For the conveyance or portage of Cherries, they are beſt to be carried in broad Baskets like ſives, with ſmooth yeelding bottomes, only two broad laths going along the bottome: and if you do tranſport them by ſhip, or boat, let not the ſives be filled to the top, leſt ſetting one upon another, you bruiſe and hurt the Cherries: if you carrie by horſe-back, then panniers, well lined with Fearne, and packt full and cloſe is the beſt and ſafeſt may.

Other ſtone-fruits. Now for the gathering of all other ſtone fruit, as Nertarines, Apricocks, Peaches, Peare-plumbes, Damſons, Bullas, and ſuch like, although in their ſeverall kinds, they ſeem not to be ripe at once on one tree: yet when any is ready to drop from the tree, though the other ſeem hard, yet they may alſo be gathered, for they have received the full ſubſtance the tree can give them; and therefore the day being faire, and the dew drawn away; ſet up your Ladder, and as you gathered your Cherries, ſo gather them: onely in the botomes of your large ſives, where you part them, you ſhall lay Nettles, and likewiſe in the top, for that will ripen thoſe that are moſt unready.

In gathering of Peares are three things obſerved:

to

to gather for expence, for tranſportation, or to ſell to the Apothecary. If the expence, and your own uſe, then gather them as ſoon as they change, and are as it were half ripe, and no more but thoſe which are changed, letting the reſt hang till they change alſo: for thus they will ripen kindly, and not rot ſo ſoone, as if they were full ripe at the gathering. But if your Peares be to be tranſported far either by Land or Water, then pull one from the Tree, and cut it in the middeſt, and if you finde it hollow about the choare, and the kernell a large ſpace to lie in: although no Peare be ready to drop from the Tree, yet then they may be gathered, and then laying them on a heape one upon another, as of neceſſity they muſt be for tranſportation, they will ripen of themſelves, and eate kindly: but gathered before, they will wither, ſhrinke and eate rough, loſing not only their taſt, but beautie. Gathering of Peares.

Now for the manner of gathering; albeit ſome climb into the trees by the boughes, and ſome by Ladder, yet both is amiſſe: the beſt way is with the Ladder before ſpoken of, which ſtandeth of it ſelfe, with a basket and a line, which being full, you muſt gently let down, and keeping the ſtring ſtill in your hand, being emptied, draw it up againe, and ſo finiſh your labour, without troubling your ſelfe, or hurting the Tree.

Now touching the gathering of Apples, it is to bee done according to the ripening of the fruit; your Summer Apples firſt, and the Winter after. Gathering of Apples.

For Summer fruit, when it is ripe, ſome will drop from the Tree, and Birds will be picking at them: But if you cut one of the greeneſt, and finde it as was

ſhew'd you before of the peare: then you may gather them, and in the houſe they will come to their ripeneſſe and perfection. For your Winter fruit, you ſhall know the ripeneſſe by the obſervation before ſhewed; but it muſt be gathered in a faire, Sunnie, and drie day, in the waine of the Moone, and no Wind in the Eaſt, alſo after the deaw is gone away: for the leaſt wet or moyſture will make them ſubject to rot and mildew: alſo you muſt have an aprone to gather in, and to empty into the great baskets, and a hooke to draw the boughes unto you, which you cannot reach with your hands at eaſe: the apron is to be an Ell every way, loopt up to your girdle, ſo as it may ſerve for either hand without any trouble: and when it is full, unlooſe one of your loopes, and emptie it gentlie into the great basket, for in throwing them downe roughly, their own ſtalkes may prick them; and thoſe which are prickt, will ever rot. Againe, you muſt gather your fruit clean without leaves or brunts, becauſe the one hurts the tree, for every burnt would be a ſtalke for fruit to grow upon: the other hurts the fruit by bruſing; and pricking it as it is laid together, and there is nothing ſooner rotteth fruit, then the greene and withered leaves lying amongſt them; neither muſt you gather them without any ſtalke at all: for ſuch fruit will begin to rot where the ſtalk ſtood.

To uſe the fallings. For ſuch fruit as falleth from the trees, and are not gathered, they muſt not bee layd with the gathered fruit: and of fallings there are two ſorts; one that falls through ripeneſſe, and they are beſt, and may be kept to bake or roaſt: the other windfals, and before they are ripe; and they muſt be ſpent as they are gathered or elſe they will wither and come to nothing: and there-

herefore it is not good by any meanes to beate downe fruit with Poales, or to carry them in Carts loose and jogging, or in sacks where they may be bruisd.

When your fruit is gathered, you shall lay them in deepe Baskets of Wicker, which shall containe foure or sixe bushels, and so betweene two men, carry them to your Apple-Loft, and in shooting or laying them downe, be very carefull that it be done with all gentlenesse, and leasure, laying every sort of fruit severall by it selfe: but if there be want of roome having so many sorts that you cannot lay them severally, then such some fruite as is neereſt in taste and colour, and of Winter fruite, such as will taste alike, may if need require, be laid together, and in time you may seperate them, as shall be shewed hereafter. But if your fruit be gathered faire from your Apple-Loft, then must the bottomes of your Baskets be lined with greene Ferne, and draw the stuborne ends of the same through the Basket, that none but the soft leafe may touch the fruit, and likewise cover the tops of the Baskets with Ferne also, and draw small cord over it, that the Ferne may not fall away, nor the fruite scatter out, or jogge up and downe: and thus you may carry fruite by Land or by Water, by Boat, or Cart, as farre as you please: and the Ferne doth not onely keepe them from bruising, but also ripens them, especially Peares. When your fruit is brought to your Apple Loft or store-house, if you finde them not ripened enough, then lay them in thicker heapes upon Fearne, and cover them with Ferne also: and when they are neere ripe, then uncover them, and make the heapes thinner, so as the ayre may passe thorow them: and if you will not hasten

Carriage of fruit.

the ripening of them, then lay them on the boords vvithout any Fearne at all. Novv for Winter, or long lasting Peares, they may bee packt either in Ferne or Stravv, and carried vvhither you please; and beeing come to the journeys end must be laid upō sweet straw; but beware the roome bee not too warme, nor windie, and too coole, for both are hurtfull: but in a temperate place, where they may have ayre, but not too much.

Of wardens. Wardens are to be gathered, carried, packt, and laid as Winter Peares are.

Of Medlers. Medlers are to be gathered about *Michaelmas*, after a frost hath toucht them; at which time they are in their full growth, and will then be dropping from the tree, but never ripe upon the tree. When they are gathered, they must be laid in a basket, five, barrell, or any such caske, & wrapt about with woollen cloths, under, over, and on all sides, and also some waight laid upon them, with a boord betweene: for except they be brought into a heat, they wil never ripen kindly or taste vvell.

Novv vvhen they have lainetill you thinke some of them be ripe, the ripest, still as they ripen, must be taken from the rest: therefore povvre them out into another five or basket leasurely, that so you may vvell finde them that be ripest, letting the hard one fall into the other basket, and those vvhich be ripe laid aside: the other that be half ripe, sever also into a third five or basket: for if the ripe and halfe ripe be kept together, the one vvill be mouldy, before the other be ripe: And thus doe, till all be throughly ripe.

Of Quinces. Quinces should not be laid vvith other fruite; for the sent is offensive both to other fruite, and to those that keepe the fruit or come amongst them: therefore lay

lay them by themſelves upon ſweet ſtraw, where they may have ayre enough: they muſt be packt like Medlers, and gathered with Medlers.

To pack Apples.

Apples muſt be packt in Wheat or Rye-ſtraw, and in maunds or baskets lyned with the ſame, and being gently handled, will ripen with ſuch packing and lying together. If ſeverall ſorts of apples be packt in one maund or basket, then betweene every ſort, lay ſweet ſtrawe of a pretty thickneſſe.

Emptying and laying Apples.

Apples muſt not be powred out, but with care and leaſure: firſt, the ſtraw pickt cleane from them, & then gently take out every ſeverall ſort, and place them by themſelves: but if for want of room you mixe the ſorts together, then lay thoſe together that are of equall laſting: but if they have all one taſte, then they need no ſeparation. Apples that are not of like colours ſhould not be laid together, and if any ſuch be mingled, let it be amended; and thoſe which are firſt ripe, let them be firſt ſpent, and to that end, lay thoſe apples together, that are of one time of ripening: and thus you muſt uſe Pippins alſo, yet will they endure bruiſes better than other fruit, and whilſt they are green will heale one another.

Difference in fruit.

Pippins though they grow of one tree, and in one ground, yet ſome will laſt better then other ſome, and ſome will be bigger then others of the ſame kinde, according as they have more or leſſe of the Sun, or more or leſſe of the droppings of the trees or upper branches: therefore let every one make moſt of that fruit which is faireſt, and longeſt laſting. Againe, the largeneſſe and goodneſſe of fruite conſiſts in the age of the tree: for as the tree increaſeth, ſo the fruite increaſeth in bigneſſe, beauty, taſte, and firmneſſe: and otherwiſe, as it decreaſeth.

Transporting fruit by water.

If you be to trasport your fruit faire by water, then provide some drye hogges-heads or battells, and packe in your apples, one by one with your hand, that no empty place may be left, to occasion fogging; and you must line your vessel at both ends with fine sweete straw; but not the sides, to avoid heat: and you must bore a dozen holes at either end, to receive ayre so much the better; and by no meanes let them take wet. Some use, that transport beyound seas, to shut the fruite under hatches upon straw: but it is not so good, if caske may be gotten.

When not to transport fruit.

It is not good to transport fruite in *March*, when the winde blowes bitterly, nor in frosty weather, neither in the extreme heate of Summer.

To convey small store of fruit.

If the quantity be small you would carry, then your may carry them Dossers or Panniers, provided they be ever filled close, and that Cherries and Peares be lined with greene Fearne, and Apples with sweete straw; and that, but at the bottomes and tops, not on the sides.

Roomes for fruit.

Winter fruite must lye neitheir too hot, nor too cold; too close, nor too open: for all are offensive. A lowe roome or Cellar that is sweet, and either boorded or paved, and not too close, is good, from *Christmas* till *March*: and roomes that are seeled over head, and from the ground, are good from *March* till *May*: then the Cellar againe, from *May* till *Michaelmas*. The apple loft would be seeled or boorded, which if it want, take the longest Rye-straw, and raise it against the walles, to make a fence as high as the fruite lyeth; and let it be no thicker then to keepe the fruite from the wall, which being moyst, may doe hurt, or if not moist, then the dust is offensive.

There

There are ſome fruite which will laſt but untill *All-hallantide:* they muſt Be laid by themſelves, then thoſe which will laſt till *Chriſtmas*, by themſelves: then thoſe which will laſt till it be *Candlemas*, by themſelves: thoſe that will laſt till *Shrovetide*, by themſelves: and Pippins, Apple-Iohns, Peare-maines, and Winter-Ruſſettings, which will laſt all the yeere by themſelves. Sorting of Frnit.

Now if you ſpy any rotten fruite in your heapes, pick them out, and with a Tray for the purpoſe, ſee you turne the heapes over, and leave not a tainted Apple in them, dividing the hardeſt by themſelves, and the broken skinned by themſelves to be firſt ſpent, and the rotten ones to be caſt away; and ever as you turne them, and picke them, under-lay them with freſh ſtraw thus ſhall you keep them ſafe for your uſe, which otherwiſe would rot ſuddenly.

Pippins, Iohn-Apples, Peare-maines, and ſuch like long laſtiug fruite, need not to be turned till the weeke before *Chriſtmas*, unleſſe they be mixt with other of riper kinde, or that the fallings be alſo with them, or much of the firſt ſtraw left amongſt them: the next time of turning is at *Shrove-tide*, and after that once a moneth till *Whitſon-tide*; and after that, once a fortnight; and ever in the turning, lay your heapes lower and lower, and your ſtraw very thinne: provided you doe none of this labour in any great froſt, except it be in a cloſe Celler. At every thawe, all fruite is moyſt, and then they muſt not be touched: neither in rainy weather, for then they will be danke alſo: and therefore at ſuch ſeaſons it is good to ſet open your windowes, and doores, that the ayre may have free paſſage to dry them, as at nine of the Time of ſtirring fruit.

clocke in the fore-noone in Winter; and at ſixe in the fore-noone, and at eight at night in Summer: onely in *March*, open not your windowes at all.

All laſting fruite, after the middeſt of *May*, beginne to wither, becauſe then they waxe dry, and the moiſture gone, which made them looke plumpe: they muſt needes wither, and be ſmaller; and nature decaying, they muſt needes rot.

And thus much touching the ordering of fruites.

FINIS.

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